ANNUAL MONITORING REPORT
2006

MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT

Underground Storage Facility Permit No. 71-563876 (PCFCD)
Water Storage Permit No. 73-563876.0100 (CMID)
Recovery Well Permit No. 74-568133 (CMID)

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1.0 INTRODUCTION

The Marana High Plains Effluent Recharge Project (MHPERP) is a demonstration recharge project developed by the Pima County Flood Control District (PCFCD) in cooperation with the Bureau of Reclamation (BOR), Arizona Water Protection Fund (AWPF), Cortaro-Marana Irrigation District (CMID), and the Town of Marana. The project is located in Section 33 of Township 11 South, Range 11 East in the Avra Valley sub-basin of the Tucson Active Management Area (**Figure 1**). It is one component of a regional water resource, flood control, environmental protection and enhancement, and recreation program (the Northwest TAMA Replenishment Program) that is sponsored by more than a dozen local, state, and federal entities.

MHPERP is designed to investigate the feasibility of recharging treated effluent into the local groundwater aquifer, while simultaneously investigating wildlife habitat opportunities associated with recharge facilities. The overall objectives for the project, as identified in the final Environmental Assessment (BOR, 1998), include the following:

- To recharge approximately 600 acre-feet of water per year for two years while determining what infiltration rates can be maintained in basins having side slopes vegetated with emergent plants and riparian trees, and in basins fully vegetated with native grasses tolerant of periodic inundation;

- To provide trails, descriptive literature, and interpretive signs describing the pilot project operation. Trails at the effluent pilot project site may eventually be linked to a longer river trail network that is scheduled to be built along the Santa Cruz River;

- To revegetate the area outside the recharge basins with plants that will improve wildlife habitat value and, once established, could survive if the recharge activities cease;

- To characterize wildlife, aquatic macroinvertebrates, and vegetative resources associated with an important effluent-dominated stream; and

- To identify and monitor any biological effects that may result from establishing other habitat types that are now rare to the area (e.g., marsh, grassland), and increase the aerial extent of riparian vegetation.

The MHPERP facility is comprised of one settling basin (equalization basin) and four spreading basins (recharge cells), totaling 3.88 acres of recharge area (**Figure 2**). A comprehensive description of the MHPERP and the related monitoring plan was provided to the Arizona Department of Water Resources (ADWR) in support of the Constructed Underground Storage Facility (USF) Permit Application for the project filed in October 1999. In addition to the USF Permit (No. 71-563876), the facility also has an Aquifer Protection Permit (No. P-103195) from the Arizona Department of Environmental Quality (ADEQ) authorizing the discharge of treated effluent into the aquifer.

Operations began in February 2003 and, in accordance with Sections 2 and 3 of the USF Permit, this is the fourth annual report for the MHPERP. This report includes all of the data that was collected during the 2006 Calendar Year.

2.0 PROJECT OPERATIONS

2.1 Water Delivery

Water is delivered to the MHPERP via the "oxbow" channel, a remnant channel of the Santa Cruz River from when the riverbed was less incised and the channel meandered back and forth across the floodplain. A berm consisting of streambed materials is used to divert some of the effluent flowing down the main channel of the Santa Cruz River into the oxbow channel. Sources of the effluent discharges are the Roger Road Wastewater Treatment Plant and the Ina Road Wastewater Treatment Plant, which are located approximately 15 miles and 10 miles upstream of the diversion structure respectively. The effluent flows down the oxbow channel for about one mile before reaching the MHPERP.

A constructed wet well collects the oxbow channel flows and two non-clogging, submersible pumps convey the effluent through an 8-inch line into an equalization basin. The equalization basin is used to provide a more constant source of available effluent for recharge, and to help serve as a settling basin for removing particulate materials that could clog the recharge cells. A level sensor is installed in this basin to automatically turn the pumps on and off based on levels within the oxbow channel and the equalization basin. From the equalization basin, the effluent passes through a 16-inch isolation valve into the main distribution line, which feeds into each of the four recharge cells through motorized butterfly valves. A level sensor is installed at each cell to automatically open and close the valves based on pre-set water levels. The valves are closed manually, using an electronic switch, by the daily operator when the cells are scheduled for a drying cycle.

Deliveries to MHPERP are based on the daily cycle of discharges from the treatment plants to the Santa Cruz River. Peaks in water levels at this site normally occur in the late morning and early evening hours. Deliveries to the facility are impacted by storm water events in the Santa Cruz River that demolish the earthen diversion structure used to divert flows into the oxbow channel. There were a number of interruptions to the recharge facility delivery system during the 2005 Calendar Year. Details of these interruptions are provided in Section 6.0 (Facility Inspections and Maintenance) of this report.

2.2 Inflow Volumes

Water deliveries into the MHPERP facility are measured using an American Sigma 950 Flow Meter equipped with a depth/velocity sensor installed within the main line that runs from the pumps to the equalization basin. Deliveries into each of the recharge cells are measured using an American Sigma 950 Flow Meter equipped with a depth/velocity sensor installed within the outlet pipe feeding into the cell. The meters measure flows on a continuing basis, record the data every minute, and compile the data into daily totals. The daily totals are read on-site by the facility operator, who compiles the data onto a daily log sheet. The daily log sheets are transmitted to PCFCD staff on a weekly basis.

Appendix A contains the daily inflow volumes recharged at the project for Calendar Year 2006. The total water volume delivered to the MHPERP for the year is 160.14 acre-feet. Water volumes stored by month are as follows: January - 10.80 AF, February -17.98 AF, March -22.03 AF, April - 14.91 AF, May - 23.54 AF, June 14.86 AF, July - 2.54 AF, August - 0.00 AF, September - 0.00 AF, October - 0.00 AF, November 0.00 AF, and December - 53.48 AF. Water recharged during this Calendar Year was stored for and recovered by CMID, who has both a Water Storage Permit (No. 73-563876.0100) and a Recovery Well Permit (No. 74-568133) for this facility.

Column 2 of the Monthly Accounting Report (**Appendix A**) indicates the daily delivered volume to the equalization basin, which is used for temporary storage of the water before it is directed into the recharge cells.[1] Columns 3-6 show daily volumes delivered to each of the recharge cells. Column 7 shows the total daily volume delivered to the project, which is simply the sum of the inflows into each of the recharge cells. The difference between Column 2 and Column 7 indicates an approximate amount of effluent lost through infiltration and evaporation within the equalization basin.

2.3 Evaporation/Evapotranspiration

Column 8 of the Monthly Accounting Report displays the calculated evaporation volumes for Recharge Cells 1-3. These calculations are based on the Cooley Method (1970) using the "Maximum Curve", as approved by ADWR (**Appendix B**).

Column 9 shows the daily evapotranspiration volumes for Recharge Cell 4. These volumes are calculated using the daily reference evapotranspiration values determined by the Arizona Meteorological Network (AZMET) at their Marana weather station (**Figure 3**). AZMET determines reference evapotranspiration (ETo) using a modification to the Penman Equation developed for the California Irrigation Management Information System (CIMIS). An explanation of the procedures used in this computation is provided in **Appendix C**. No multiplication factor was used in the calculation of reference evapotranspiration (ETo) for the MHPERP because there are no available crop coefficients for the native vegetation in this region.[2]

2.4 Recharge Volumes

Column 10 in the Monthly Accounting Report displays the adjusted net recharge volume for the facility, which is the sum of the daily volumes delivered to the recharge cells less the evaporation/evapotranspiration losses. Net recharge for the facility during the 2006 Calendar Year

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[1] The totals for this quarter have been corrected due to errors in the flow calculations by the flow meter, Fmeq. See Section 6.0, Facility Inspections, for details.

[2] The reference evapotranspiration values are determined for tall (8-15 inches), cool season grasses. Much of the vegetation within Recharge Cell 4 consists mostly of grasses that are approximately 8-15 inches in height. Since no information is available for the species established at MHPERP, it is assumed that the evapotranspiration losses at this facility are the same as those calculated at the AZMET station.

is 149.49 AF. Monthly and cumulative recharge for each recharge cell and for the total project are displayed in **Figures 5** though **9**.

3.0 HYDROLOGIC MONITORING

Hydrologic monitoring of the facility includes measurement of on-site and off-site groundwater levels and direct observation of basin water levels. The on-site monitoring network consists of one monitor well and one piezometer, both measured bi-weekly using a depth sounder (**Figure 4**). Off-site monitoring consists of monthly water level measurements for three monitor wells: SC-09, SC-10 and AVMW-1 (**Figure 4**).

3.1 Basin Water Levels

Water levels within the equalization basin are expected to fluctuate from one to four feet above the bottom elevation of 1,984 feet above mean sea level. Water depths in each of the recharge cells are expected to fluctuate from three to nine inches during the wet cycles. Water levels sensors within the basins are programmed to automatically maintain these ranges. Basin water levels are observed visually on a daily basis to insure that the sensors are working properly.

3.2 Regional Groundwater Levels

Groundwater levels are measured for four monitoring wells, one on-site (HP-1) and three off-site (SC-09, SC-10 and AVMW-1). HP-1 is measured monthly by PCFCD personnel using an electric sounder. Wells SC-09 and SC-10 are also monitored on a monthly basis by PCFCD staff using an electric sounder. Well AVMW-1 is measured monthly by the Central Arizona Water Conservation District (CAWCD) using both an automatic datalogger and a manually operated electric sounder. PCFCD has an agreement with CAWCD to obtain the data collected from the AVMW-1 well.

Table 1 contains the water level data collected for the on-site and off-site monitor wells. All of the monitor wells have alert levels of 20 feet below land surface. Alert levels for the monitoring wells were not exceeded during the 2006 Calendar Year.

3.3 Perched Groundwater Occurrence

Table 2 contains the monitoring data for the one piezometer (HP-2) used to assess perched water conditions. This well was dry during the entire 2006 Calendar Year. The alert levels for this well are set at 20 feet below land surface.

4.0 INFILTRATION RATE ASSESSMENT

Table 3 displays the average daily and monthly infiltration rates for each of the recharge cells during the 2006 Calendar Year. Infiltration rates were estimated using the "volumetric" method, which is simply the total daily inflow divided by the wetted acreage. The total wetted acreage used to calculate the infiltration rate is determined using the level sensor on the area/velocity flow meter. Data downloaded from the flow meter is used to determine average daily water levels in the recharge

cells. Rating curves calculated using topography of the site are then used to determine wetted area of each recharge cell. Daily visual estimates are also provided by the facility operator as a check.

The average monthly infiltration rates for the annual reporting period ranged from 0.08 feet/day to 2.65 feet/day. A graph of the average monthly rates is displayed in **Figure 10**. Infiltration rates were quite low (< 0.5 feet/day) in Recharge Cells 1 through 3 during the first seven months of Calendar Year 2006. This suggests that the soils were becoming heavily clogged with fine-grained sediment and organic material due to the continual addition of a water source that is high in dissolved solids and nutrient content. Cell 4, which has a vegetative bottom, experienced the lowest rates during this time period, suggesting that the build-up of vegetative debris, coupled with no maintenance over the last 3 years, has a profound effect on infiltration. Infiltration rates within all the cells increased substantially in December, after a four-month drying period and mechanical removal and break-up of the fine sediment layers within the cell bottoms.

5.0 WATER QUALITY MONITORING

5.1 Water Quality Sampling Activities

The Aquifer Protection Permit requires water quality samples to be collected and analyzed on a monthly basis for nutrients (Nitrogen constituents), and on a quarterly basin for total metals and Volatile Organic Compounds (VOCs). Samples are collected from the source water inflow and from monitor well HP-1. Nitrogen forms are monitored more frequently because of the high nitrogen content in effluent water, and the potential for recharge to increase the nitrogen content in the local aquifer through leaching of nearby agricultural soils. Water quality sampling at the MHPERP also serves as a tool for studying nitrogen transformations in riparian and aquatic ecosystems, to determine if nitrogen levels can be reduced through the wetland recharge process.

5.2 Chemical Analyses Results

Table 4 summarizes the results from sampling taken during the 2006 Calendar Year. Samples were taken at the oxbow channel, when flowing, and at monitoring well HP-1. Sampling for nitrogen constituents was performed on a monthly basis, while sampling for Total Metals and VOCs was performed quarterly. There were no analytes reported above the alert levels set by the Aquifer Protection Permit for this facility. The laboratory reports and chain of custody forms are provided for reference in **Appendix D**.

6.0 FACILITY INSPECTIONS

Inspections of the facility equipment and functions are required by the Aquifer Protection Permit on a weekly basis. The facility operator at MHPERP performs inspections on a daily basis while collecting data for PCFCD, transmitting any problems or required maintenance through daily logs that are delivered on a weekly basis to PCFCD. PCFCD staff is contacted immediately for any alarms or serious problems concerning the facility equipment. PCFCD staff perform weekly investigations of the facility to insure quality of the data collected and note any general maintenance needs.

Table 5 lists the problems that occurred throughout the 2006 Calendar Year and the solutions performed to resolve them. Major hindrances to recharge at the facility were the occurrence of periodic storm water flows within the Santa Cruz River during a particularly wet summer season and the lack of regular maintenance performed on the recharge cells.

7.0 CONCLUSIONS

The volume of water stored at the MHPERP for Calendar Year 2006 is 160.14 AF. This total is 11.21 AF higher than last year's total, but is still almost 440 AF lower than the yearly permitted total for the recharge facility. Monitoring of operations has shown no exceedences of water quality standards nor water alert levels at the project site. Off-site monitoring showed no negative impacts to surrounding operation from a water level perspective.

Infiltration rates were very low for about the first half of the 2006 Calendar Year. This is most likely due to the build-up of salt residues, fine sediment, and organic layers created from a water source that is high in dissolved solids and nutrient content. Infiltration rates observed in Cell 4 were particularly low during this period due to the build-up of vegetative debris and lack of maintenance over the last few years. Infiltration rates in all of the cells increased significantly after a four-month drying period (due to washout of the diversion berm), coupled with the mechanical removal and breakdown of the clogging layers and removal of vegetative debris.

Annual recharge volumes at the facility continue to be significantly lower than what was expected at the beginning of the project. Periodic washouts of the diversion berm are a significant source for these lower volumes, however recharge could most likely be increased with a regular maintenance program for the facility. Efforts are being made to scrape and remove the clogging layers at least two times a year.

PCRFCD staff is also investigating other means to increase the recharge capacity of the facility. Exploratory trenching indicates a very permeable layer beneath Cell 2 beginning at 4.5-5.0 feet below the pond bottom. Future permitting may include deepening of the recharge cells.

Matted vegetative debris and no regular maintenance greatly decreased the infiltration rates observed in Cell 4, suggesting that a fully vegetated basin bottom has a negative effect on overall recharge capacity. However, the vegetated side slopes within Cell 3 did not appear to have any significant affect on infiltration rates when compared with Cells 1 and 2, which were devoid of vegetation. Based on this information, it appears that vegetation can be used to enhance the surrounding environment while maintaining recharge capacity, but it should be kept out of the recharge cell bottoms or confined to small islands and along the cells' side slopes.

The current Underground Storage Facility Permit for MHPERP will expire on September 26, 2007. PCRFCD staff are investigating activities to increase the facility's recharge capacity and efficiency of operation in an effort to obtain a new permit for this project before the termination date.

FIGURES

FIGURE 1
Location Map

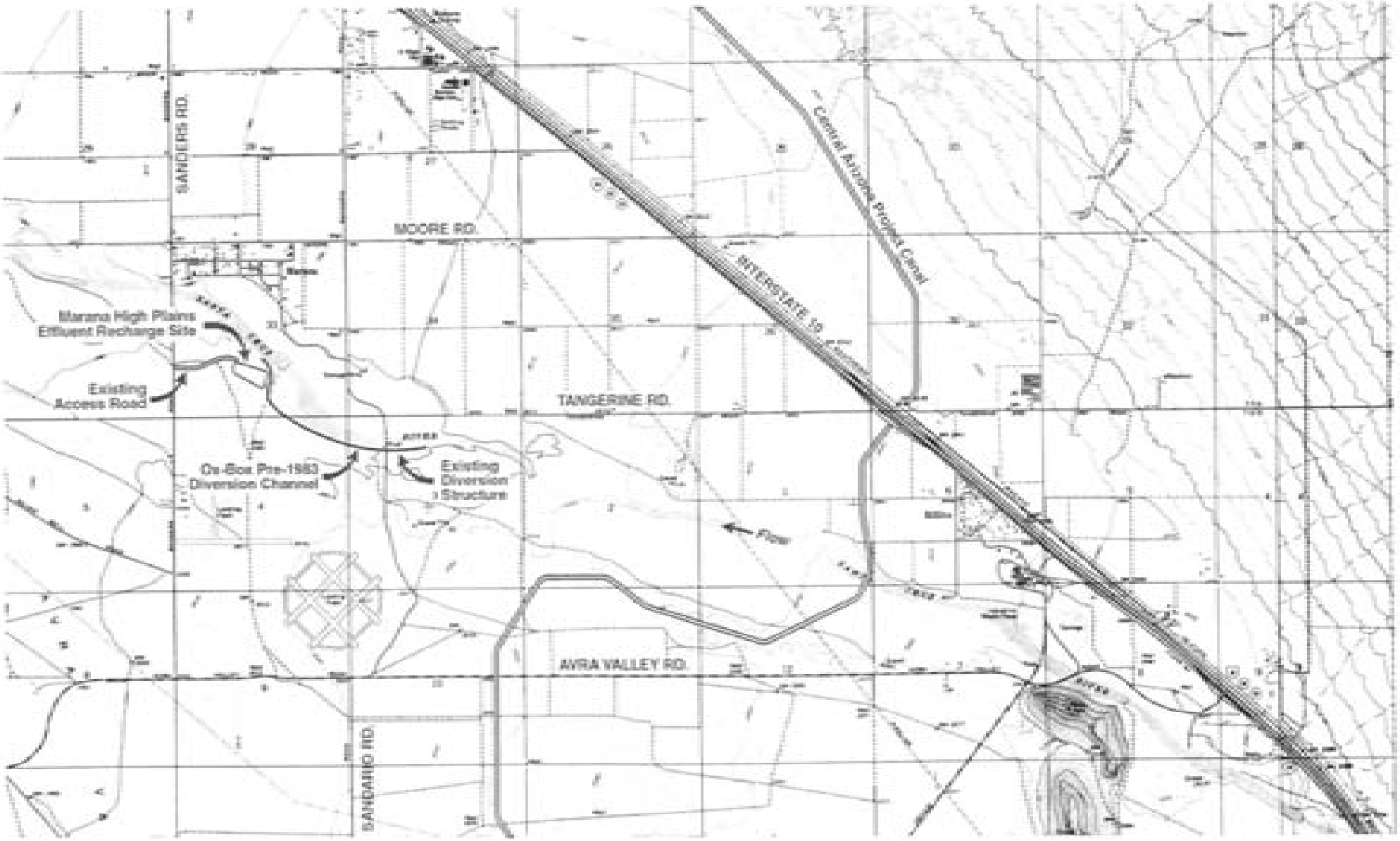
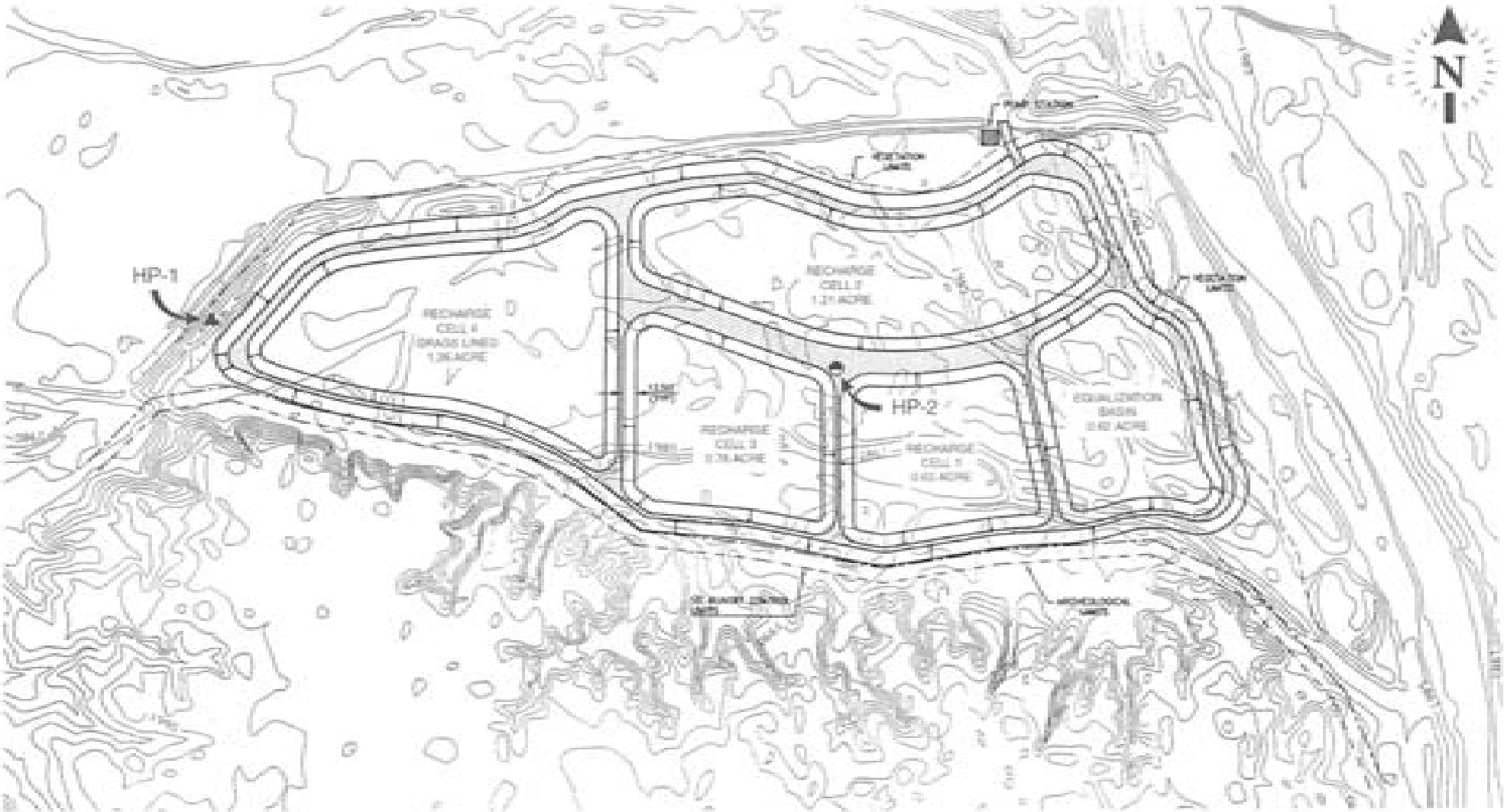


FIGURE 2
Facility Map



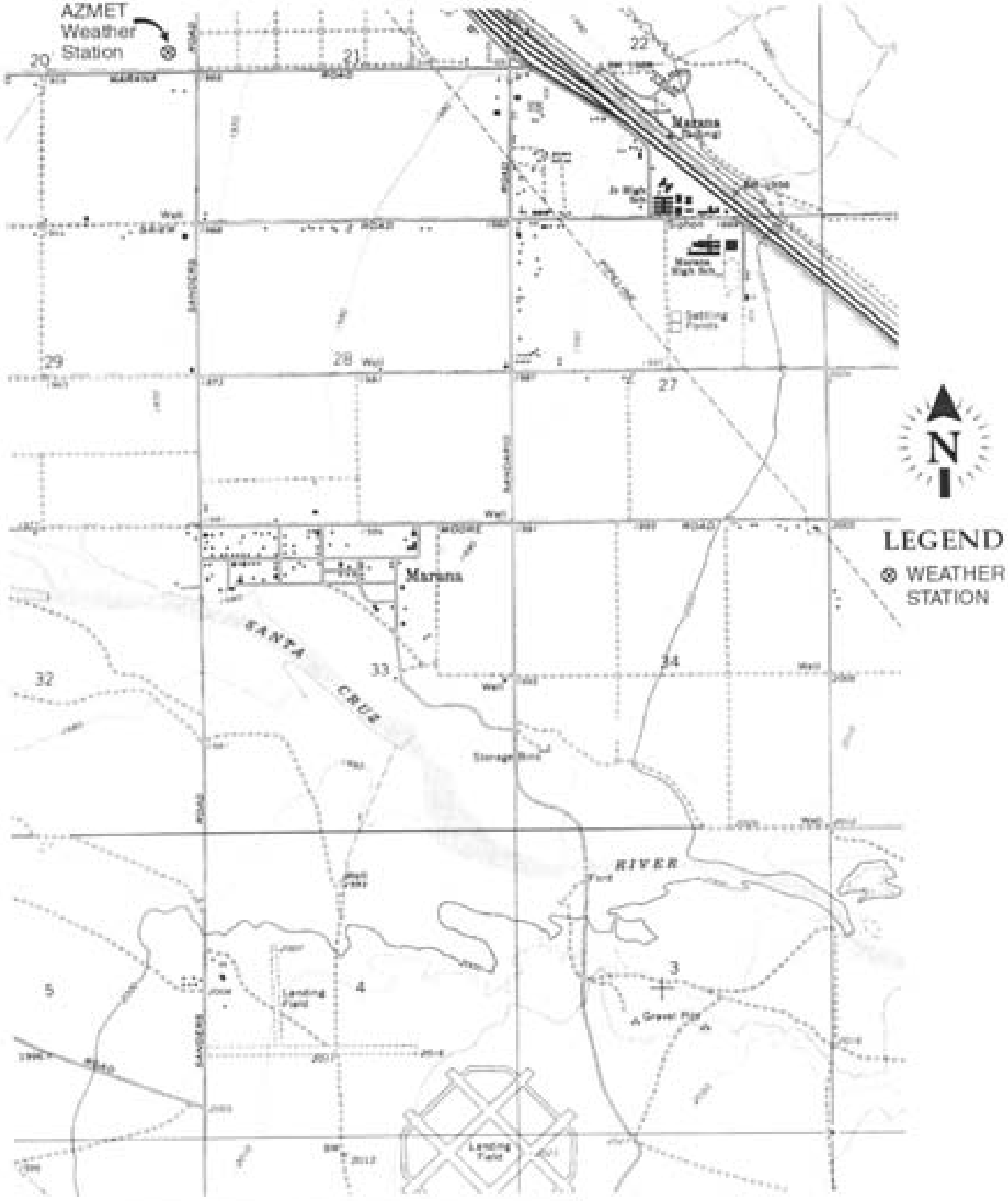
LEGEND

▲ MONITOR WELL

● PIEZOMETER

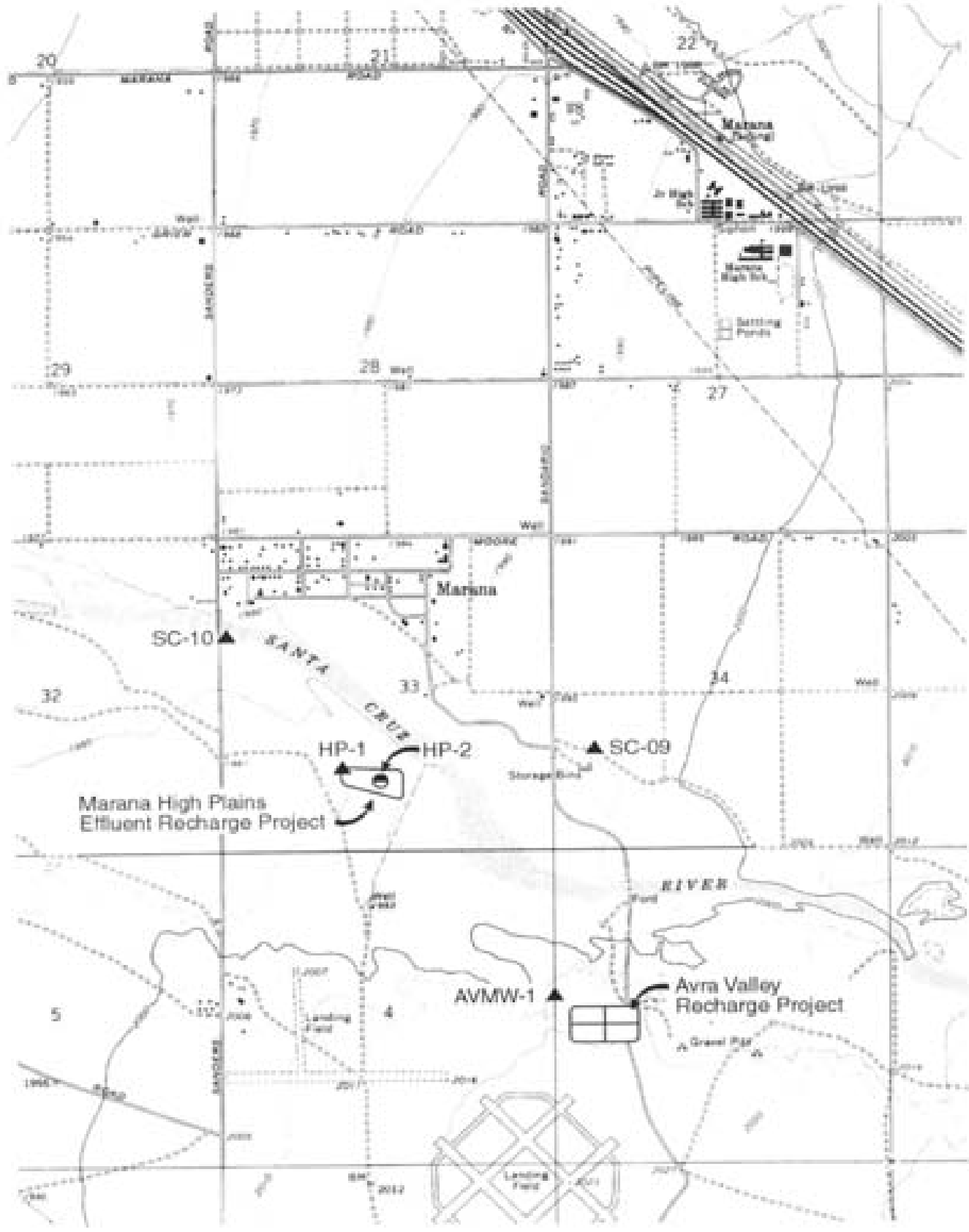
SCALE IN FEET:

TOTAL RECHARGE AREA = 3.68 ACRES
ESTIMATED RECHARGE VOLUME = 290 ACRE-FT/YR



Date on line: Sep 1 1987 (Julian Day 244)
Location: 1.6 km (1 mile) west of I-10 on Trico-Marana Rd.
Elevation: 601 meters (1972 ft)
Coordinates: Latitude = 32° 27' 40" N; Longitude = 111° 14' 00" W
Cooperator: Marana Agricultural Center College of Agri., Univ. of Arizona

FIGURE 3
Marana High Plains Effluent Recharge Project :
AZMET Weather Station Location Map



LEGEND

▲ MONITOR WELL

⬭ PIEZOMETER

N

Miles .5 1 2

SCALE:

FIGURE 4
Marana High Plains Effluent Recharge Project : Offsite Monitor Well Location Map

FIGURE 5
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
Cell 1 - 2006 Monthly and Cumulative Recharge

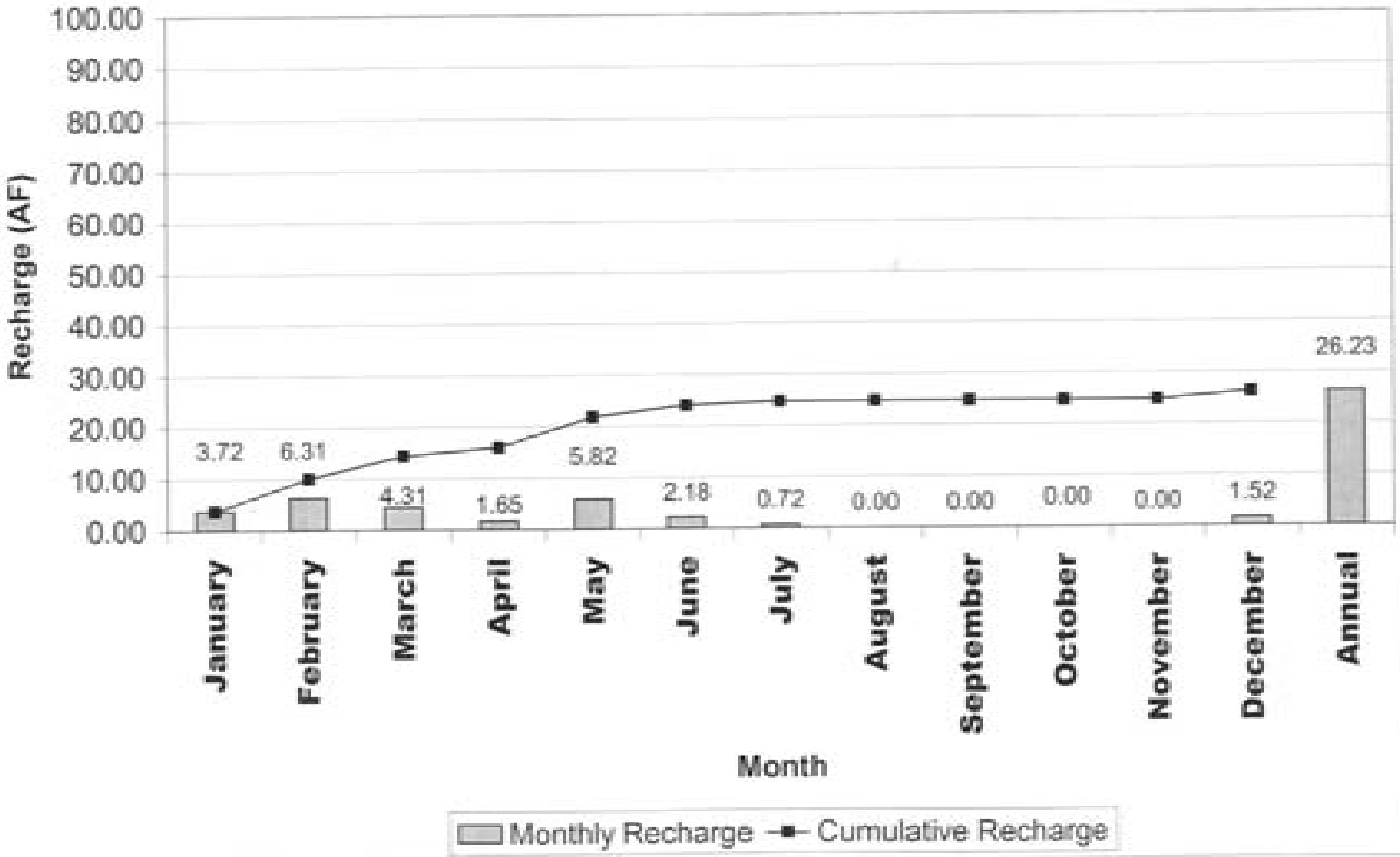


FIGURE 6
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
Cell 2 - 2006 Monthly and Cumulative Recharge

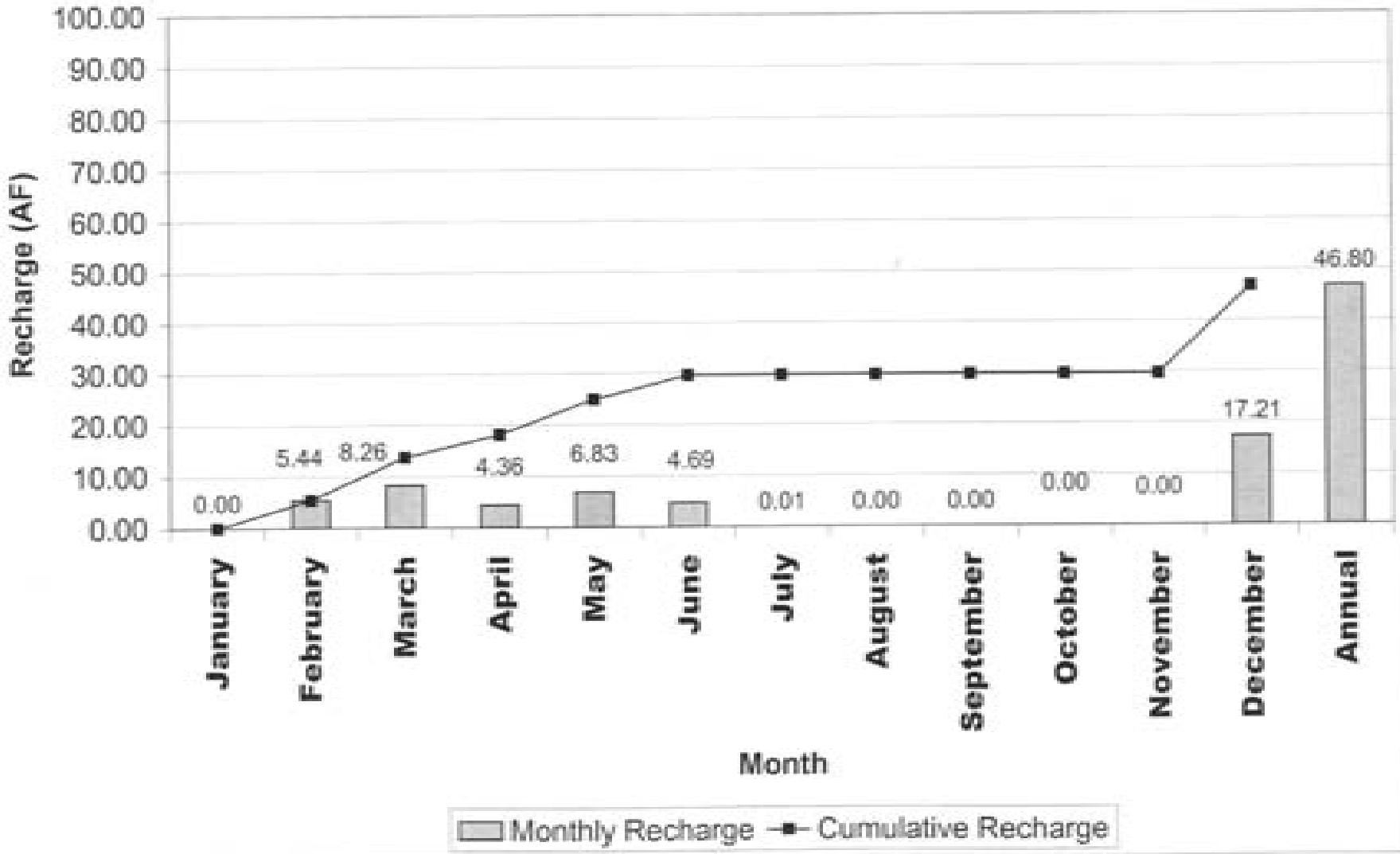


FIGURE 7
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
Cell 3 - 2006 Monthly and Cumulative Recharge

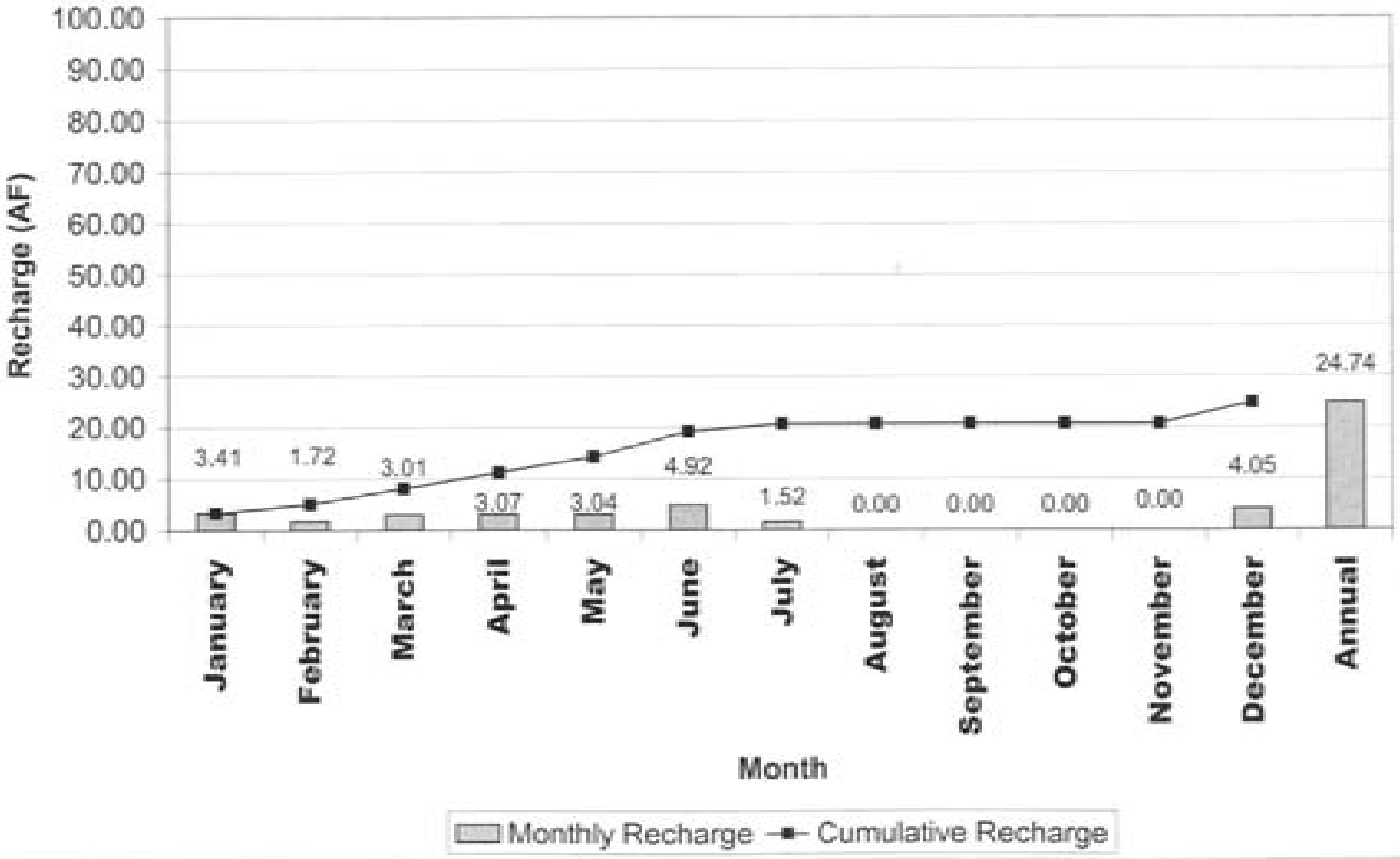


FIGURE 8
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
Cell 4 - 2006 Monthly and Cumulative Recharge

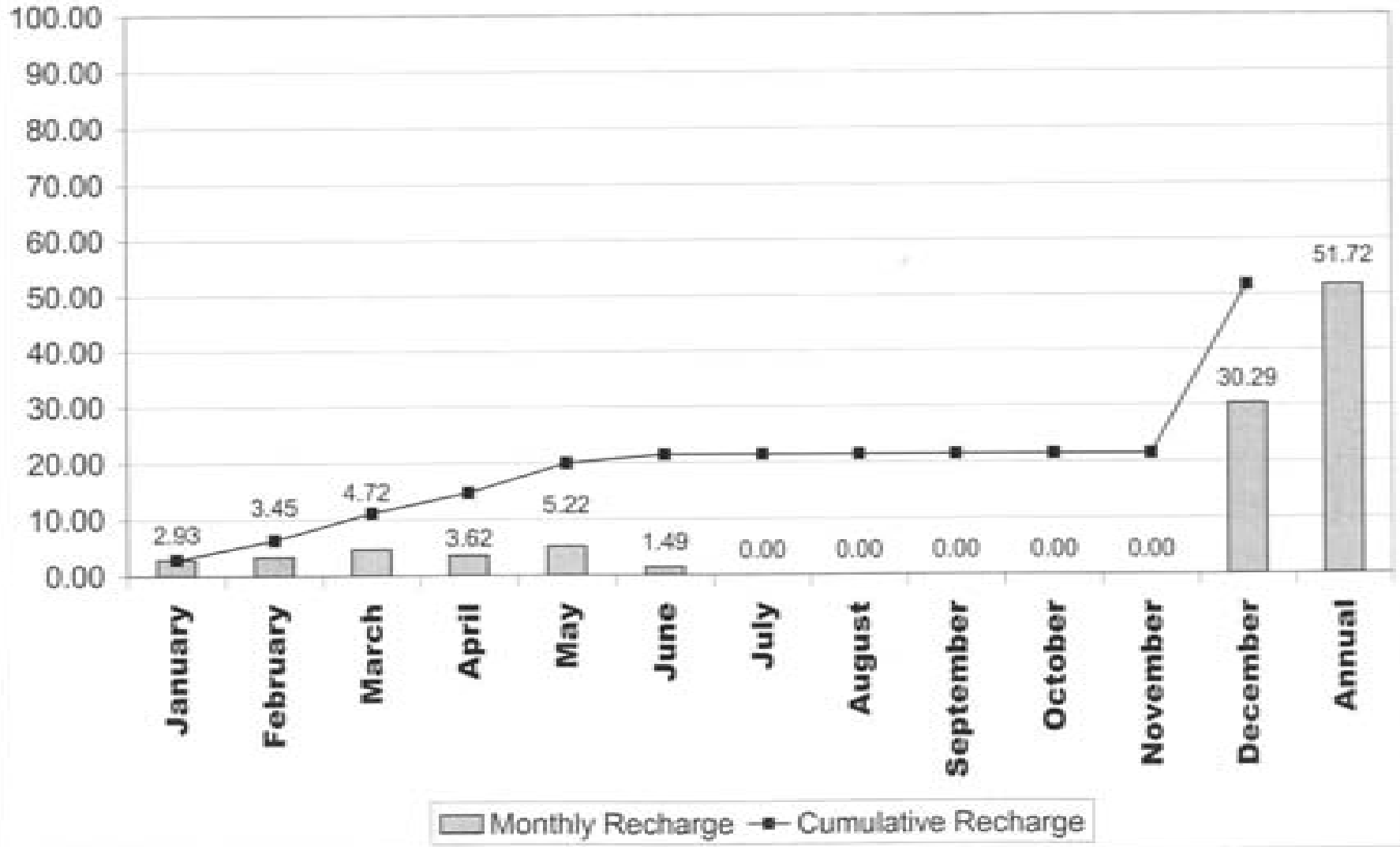


FIGURE 9
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
Total Project - 2006 Monthly and Cumulative Recharge

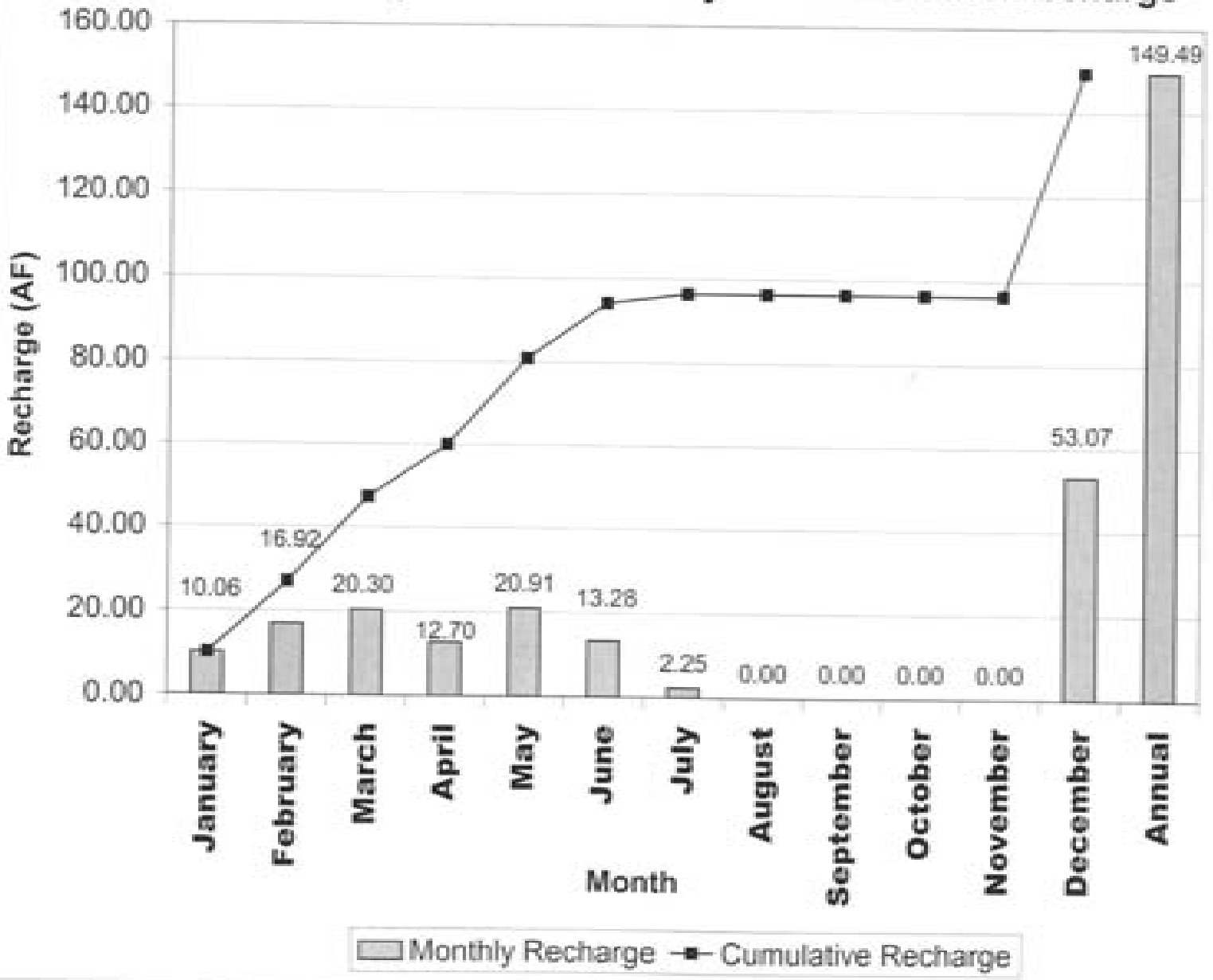
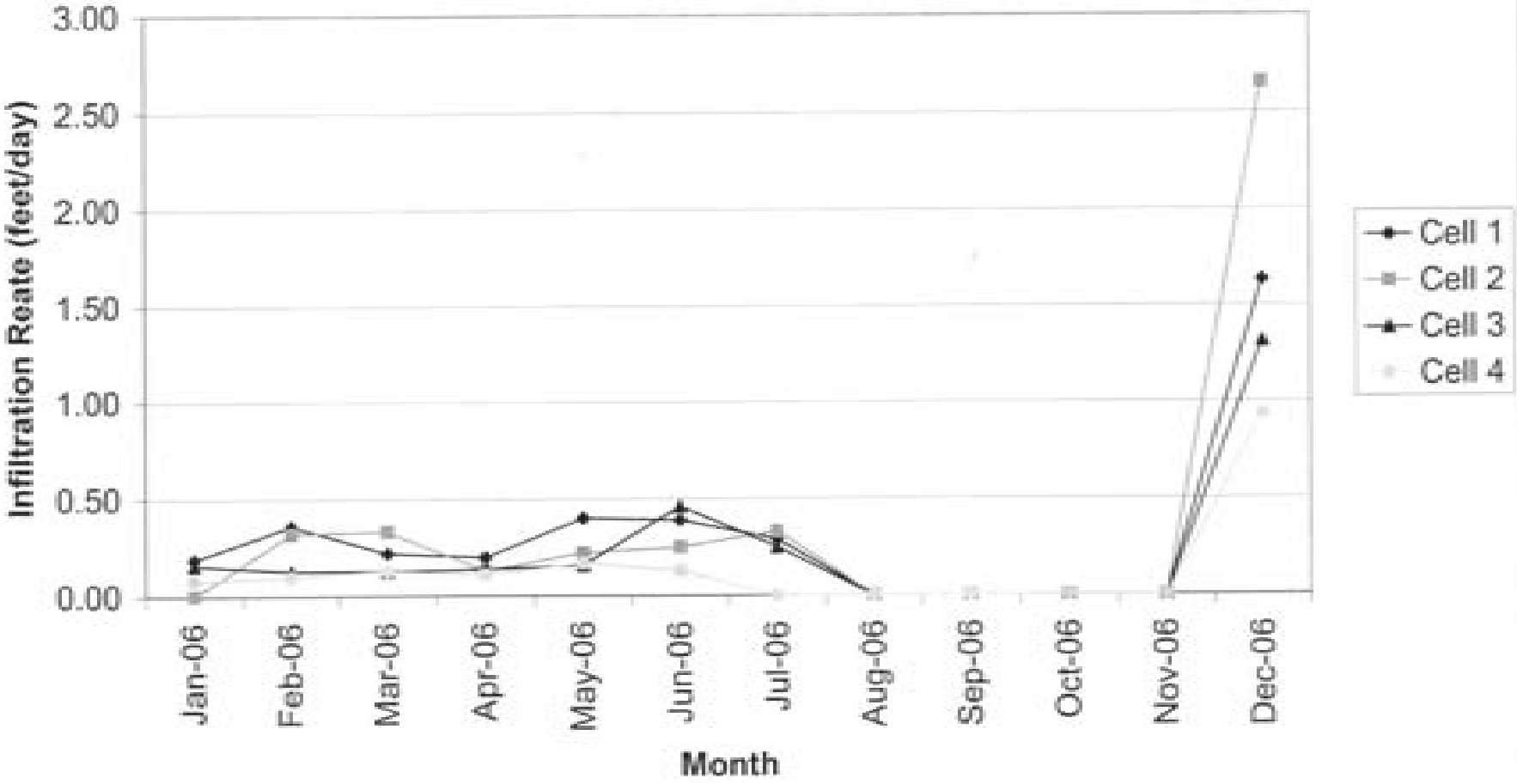


Figure 10
Marana High Plains Effluent Recharge Project
Average Monthly Infiltration Rates: CY 2006



TABLES

TABLE 1
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
ON-SITE AND OFF-SITE MONITOR WELL LEVELS
CALENDAR YEAR 2006

Offsite Wells

Monitoring Well ID:	SC-09		Monitoring Well ID:	SC-10		Monitoring Well ID:	AVMW-1	
Cadastral Location:	D(11-11) 34cbc		Cadastral Location:	D(11-11) 33bcb		Cadastral Location:	D(12-11) 3cbb	
Reference Point Elev.:	1991.41		Reference Point Elev.:	1977.89		Reference Point Elev.:	2014.7	
Date	Depth to water	Water Level Elevation	Date	Depth to water	Water Level Elevation	Date	Depth to water	Water Level Elevation
1/30/2006	191.29	1800.12	1/30/2006	185.08	1792.81	1/16/2006	182.30	1832.40
2/27/2006	191.83	1799.58	2/27/2006	185.42	1792.47	2/27/2006	185.40	1829.30
3/30/2006	193.75	1797.66	3/30/2006	188.79	1789.10	3/20/2006	182.70	1832.00
6/20/2006	196.90	1794.51	6/27/2006	190.06	1787.83	4/19/2006	186.20	1828.50
9/14/2006	191.79	1799.62	8/31/2006	187.00	1790.89	5/16/2006	181.60	1833.10
10/17/2006	190.90	1800.51	10/17/2006	183.57	1794.32	6/20/2006	180.00	1834.70
			11/20/2006	184.67	1793.22	8/15/2006	176.30	1838.40
						9/21/2006	175.30	1839.40
						10/19/2006	181.50	1833.20
						11/21/2006	180.90	1833.80
						12/20/2006	194.20	1820.50

NA = Not available

Onsite Well

Monitoring Well ID:	HP-1	
Cadastral Location:	D(11-11) 33cac	
Reference Point Elev.:	1985.17	
Date	Depth to water	Water Level Elevation
1/30/2006	184.42	1800.75
2/27/2006	185.00	1800.17
3/30/2006	187.42	1797.75
4/28/2006	189.00	1796.17
5/31/2006	188.00	1797.17
6/21/2006	188.83	1796.34
7/18/2006	186.96	1798.21
8/22/2006	185.70	1799.47
9/29/2006	183.14	1802.03
10/24/2006	183.75	1801.42
11/16/2006	184.87	1800.30
12/11/2006	186.00	1799.17

Note: All depths to water are measured in feet; all water level elevations are measured in feet above sea level.

TABLE 2
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
ON-SITE PIEZOMETER WATER LEVELS
CALENDAR YEAR 2006

Date Measured	Depth to Water (feet)	Mound Height	Elevation* (feet)
1/30/2006	DRY	None	N/A
2/27/2006	DRY	None	N/A
3/30/2006	DRY	None	N/A
4/28/2006	DRY	None	N/A
5/31/2006	DRY	None	N/A
6/21/2006	DRY	None	N/A
7/18/2006	DRY	None	N/A
8/22/2006	DRY	None	N/A
9/29/2006	DRY	None	N/A
10/24/2006	DRY	None	N/A
11/21/2006	DRY	None	N/A
12/11/2006	DRY	None	N/A

* Reference elevation for well port is 1986.75 feet (above sea level).
N/A = Not applicable

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
JANUARY 2006

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.11	0.63	0.17	0.00	0.00	N/A	0.00	0.78	0.00	0.00	1.23	0.00
2	0.12	0.63	0.19	0.00	0.00	N/A	0.02	0.73	0.03	0.00	1.16	0.00
3	0.09	0.63	0.14	0.00	0.00	N/A	0.00	0.72	0.00	0.06	1.18	0.05
4	0.00	0.63	0.00	0.00	0.00	N/A	0.00	0.72	0.00	0.00	1.16	0.00
5	0.02	0.63	0.03	0.00	0.00	N/A	0.00	0.72	0.00	0.12	1.22	0.10
6	0.10	0.63	0.16	0.00	0.00	N/A	0.00	0.59	0.00	0.00	1.18	0.00
7	0.11	0.63	0.17	0.00	0.00	N/A	0.00	0.39	N/A	0.00	1.16	0.00
8	0.17	0.61	0.28	0.00	0.00	N/A	0.00	0.00	0.00	0.26	1.16	0.22
9	0.19	0.58	0.33	0.00	0.00	N/A	0.18	0.01	0.25	0.08	1.16	0.07
10	0.41	0.61	0.67	0.00	0.00	N/A	0.41	0.72	0.53	0.56	1.23	0.46
11	0.12	0.63	0.19	0.00	0.00	N/A	0.85	0.78	1.09	0.00	1.18	0.00
12	0.04	0.63	0.06	0.00	0.00	N/A	0.00	0.78	0.00	0.00	1.16	0.00
13	0.08	0.63	0.13	0.00	0.00	N/A	0.00	0.78	0.00	0.28	1.23	0.23
14	0.11	0.63	0.17	0.00	0.00	N/A	0.00	0.78	0.00	0.00	1.26	0.00
15	0.13	0.63	0.21	0.00	0.00	N/A	0.00	0.78	0.00	0.00	1.22	0.00
16	0.15	0.63	0.24	0.00	0.00	N/A	0.00	0.73	0.00	0.24	1.11	0.22
17	0.18	0.63	0.29	0.00	0.00	N/A	0.00	0.72	0.00	0.33	1.26	0.26
18	0.07	0.63	0.11	0.00	0.00	N/A	0.00	0.59	0.00	0.00	1.23	0.00
19	0.07	0.63	0.11	0.00	0.00	N/A	0.00	0.59	0.00	0.00	1.16	0.00
20	0.06	0.63	0.10	0.00	0.00	N/A	0.00	0.20	N/A	0.19	1.16	0.16
21	0.09	0.63	0.14	0.00	0.00	N/A	0.00	0.00	0.00	0.00	1.23	0.00
22	0.05	0.63	0.08	0.00	0.00	N/A	0.00	0.59	0.00	0.00	1.22	0.00
23	0.26	0.61	0.43	0.00	0.00	N/A	0.38	0.76	0.49	0.10	1.11	0.09
24	0.19	0.63	0.30	0.00	0.00	N/A	0.73	0.78	0.94	0.46	1.23	0.37
25	0.14	0.63	0.22	0.00	0.00	N/A	0.92	0.78	1.18	0.00	1.23	0.00
26	0.06	0.63	0.10	0.00	0.00	N/A	0.00	0.78	0.00	0.02	1.11	0.02
27	0.08	0.63	0.13	0.00	0.00	N/A	0.00	0.78	0.00	0.11	1.26	0.09
28	0.07	0.63	0.11	0.00	0.00	N/A	0.00	0.78	0.00	0.00	1.23	0.00
29	0.08	0.63	0.13	0.00	0.00	N/A	0.00	0.78	0.00	0.00	1.11	0.00
30	0.29	0.59	0.49	0.00	0.00	N/A	0.00	0.78	0.00	0.23	1.16	0.20
31	0.07	0.58	0.12	0.00	0.00	N/A	0.00	0.78	N/A	0.03	0.95	0.03
	Average =		0.19	Average =		N/A	Average =		0.16	Average =		0.08

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
FEBRUARY 2006

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.40	0.63	0.63	0.00	0.00	N/A	0.00	0.78	0.00	0.30	0.95	0.32
2	0.25	0.63	0.40	0.00	0.00	N/A	0.00	0.78	0.00	0.37	1.26	0.29
3	0.15	0.63	0.24	0.00	0.00	N/A	0.00	0.78	0.00	0.14	1.26	0.11
4	0.15	0.63	0.24	0.00	0.00	N/A	0.12	0.78	0.15	0.14	1.13	0.12
5	0.15	0.63	0.24	0.00	0.00	N/A	0.12	0.78	0.15	0.14	1.26	0.11
6	0.15	0.63	0.24	0.00	0.00	N/A	0.12	0.78	0.15	0.14	1.26	0.11
7	0.28	0.63	0.44	0.00	0.00	N/A	0.12	0.78	0.15	0.28	1.26	0.22
8	0.16	0.63	0.25	0.00	0.00	N/A	0.12	0.78	0.15	0.08	1.26	0.06
9	0.07	0.63	0.11	0.03	0.02	1.50	0.00	0.78	0.00	0.00	1.26	0.00
10	0.39	0.63	0.62	0.29	1.21	0.24	0.00	0.78	0.00	0.11	1.26	0.09
11	1.08	0.63	1.71	0.77	1.21	0.64	0.00	0.78	0.00	0.14	1.26	0.11
12	0.18	0.63	0.29	0.85	1.21	0.70	0.00	0.78	0.00	0.35	1.26	0.28
13	0.07	0.63	0.11	0.40	1.21	0.33	0.00	0.78	0.00	0.00	1.26	0.00
14	0.06	0.63	0.10	0.01	1.21	0.01	0.00	0.70	0.00	0.00	1.26	0.00
15	0.23	0.63	0.37	0.03	1.19	0.03	0.00	0.62	0.00	0.16	1.26	0.13
16	0.07	0.63	0.11	0.00	1.15	0.00	0.08	0.55	0.15	0.00	1.07	0.00
17	0.10	0.63	0.16	0.00	1.09	0.00	0.00	0.51	0.00	0.00	0.95	0.00
18	0.06	0.63	0.10	0.00	0.91	0.00	0.00	0.39	0.00	0.02	0.88	0.02
19	0.28	0.63	0.44	0.00	0.61	0.00	0.00	0.27	0.00	0.22	1.26	0.17
20	0.17	0.63	0.27	0.05	0.24	0.21	0.34	0.20	1.70	0.09	1.26	0.07
21	0.28	0.63	0.44	0.29	0.91	0.32	0.12	0.78	0.15	0.22	1.26	0.17
22	0.45	0.63	0.71	0.70	1.21	0.58	0.11	0.78	0.14	0.17	1.26	0.13
23	0.15	0.63	0.24	0.22	1.21	0.18	0.00	0.78	0.00	0.29	1.26	0.23
24	0.05	0.63	0.08	0.00	1.21	0.00	0.00	0.78	0.00	0.00	1.26	0.00
25	0.03	0.63	0.05	0.00	1.09	0.00	0.00	0.78	0.00	0.00	1.26	0.00
26	0.06	0.63	0.10	0.00	0.97	0.00	0.00	0.78	0.00	0.16	1.26	0.13
27	0.66	0.63	1.05	0.64	0.91	0.70	0.00	0.78	0.00	0.00	1.26	0.00
28	0.17	0.63	0.27	1.22	1.21	1.01	0.56	0.78	0.72	0.00	1.26	0.00
	Average =		0.36	Average =		0.32	Average =		0.13	Average =		0.10

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
MARCH 2006

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.09	0.63	0.14	0.35	1.21	0.29	0.15	0.78	0.19	0.21	1.26	0.17
2	0.05	0.63	0.08	0.00	1.21	0.00	0.00	0.78	0.00	0.01	1.26	0.01
3	0.06	0.63	0.10	0.00	1.21	0.00	0.00	0.78	0.00	0.02	1.26	0.02
4	0.05	0.63	0.08	0.00	1.09	0.00	0.00	0.78	0.00	0.21	1.26	0.17
5	0.03	0.63	0.05	0.00	0.97	0.00	0.00	0.78	0.00	0.08	1.26	0.06
6	0.25	0.63	0.40	0.91	0.91	1.00	0.16	0.78	0.21	0.17	1.26	0.13
7	0.17	0.63	0.27	0.72	1.21	0.60	0.14	0.78	0.18	0.24	1.26	0.19
8	0.14	0.63	0.22	0.36	1.21	0.30	0.23	0.78	0.29	0.31	1.26	0.25
9	0.10	0.63	0.16	0.22	1.21	0.18	0.11	0.78	0.14	0.30	1.26	0.24
10	0.15	0.63	0.24	0.04	1.21	0.03	0.13	0.78	0.17	0.00	1.26	0.00
11	0.20	0.63	0.32	0.02	1.21	0.02	0.45	0.78	0.58	0.01	1.26	0.01
12	0.05	0.63	0.08	0.00	1.15	0.00	0.03	0.78	0.04	0.02	1.26	0.02
13	0.38	0.63	0.60	0.70	1.09	0.64	0.14	0.78	0.18	0.39	1.26	0.31
14	0.21	0.63	0.33	0.50	1.21	0.41	0.13	0.78	0.17	0.20	1.13	0.18
15	0.05	0.58	0.09	0.99	1.21	0.82	0.00	0.78	0.00	0.01	0.95	0.01
16	0.08	0.63	0.13	0.60	1.21	0.50	0.00	0.78	0.00	0.33	1.22	0.27
17	0.10	0.63	0.16	0.00	1.21	0.00	0.00	0.78	0.00	0.00	1.18	0.00
18	0.11	0.63	0.17	0.00	1.21	0.00	0.03	0.76	0.04	0.00	1.16	0.00
19	0.08	0.63	0.13	0.00	1.17	0.00	0.02	0.73	0.03	0.26	1.22	0.21
20	0.18	0.61	0.30	0.43	1.14	0.38	0.20	0.73	0.27	0.29	1.23	0.24
21	0.13	0.63	0.21	0.28	1.15	0.24	0.13	0.78	0.17	0.15	1.23	0.12
22	0.06	0.63	0.10	0.00	1.14	0.00	0.00	0.76	0.00	0.11	1.22	0.09
23	0.10	0.63	0.16	0.00	1.06	0.00	0.00	0.73	0.00	0.27	0.95	0.28
24	0.08	0.63	0.13	0.00	1.03	0.00	0.01	0.72	0.01	0.00	1.26	0.00
25	0.09	0.63	0.14	0.00	0.30	0.00	0.02	0.72	0.03	0.03	1.23	0.02
26	0.08	0.63	0.13	0.00	0.00	N/A	0.02	0.72	0.03	0.14	1.16	0.12
27	0.40	0.59	0.68	0.31	0.12	2.58	0.16	0.72	0.22	0.27	1.16	0.23
28	0.33	0.59	0.56	1.00	1.03	0.97	0.14	0.72	0.19	0.29	1.22	0.24
29	0.33	0.63	0.52	0.61	1.14	0.54	0.49	0.76	0.64	0.36	1.23	0.29
30	0.09	0.63	0.14	0.34	1.17	0.29	0.19	0.78	0.24	0.05	1.23	0.04
31	0.09	0.63	0.14	0.00	1.21	0.00	0.00	0.78	0.00	0.04	1.26	0.03
	Average =		0.22	Average =		0.33	Average =		0.13	Average =		0.13

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
APRIL 2006

Day	Cell 1			Cell 2			Cell 3			Cell 4*		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.05	0.63	0.08	0.00	1.14	0.00	0.00	0.76	0.00	0.25	1.23	0.20
2	0.05	0.63	0.08	0.00	1.09	0.00	0.00	0.73	0.00	0.00	1.23	0.00
3	0.34	0.63	0.54	0.57	1.09	0.52	0.23	0.73	0.32	0.01	1.16	0.01
4	0.07	0.63	0.11	0.76	1.15	0.66	0.18	0.78	0.23	0.51	1.23	0.41
5	0.11	0.63	0.17	0.43	1.21	0.36	0.00	0.76	0.00	0.01	1.23	0.01
6	0.01	0.61	0.02	0.00	1.21	0.00	0.00	0.76	0.00	0.06	0.95	0.06
7	0.07	0.61	0.11	0.00	1.17	0.00	0.02	0.72	0.03	0.23	1.23	0.19
8	0.09	0.59	0.15	0.00	1.14	0.00	0.02	0.72	0.03	0.00	1.16	0.00
9	0.11	0.58	0.19	0.01	1.11	0.01	0.01	0.72	0.01	0.00	1.16	0.00
10	0.11	0.58	0.19	0.20	1.09	0.18	0.25	0.72	0.35	0.32	1.11	0.29
11	0.22	0.58	0.38	0.55	1.14	0.48	0.34	0.76	0.45	0.36	1.23	0.29
12	0.17	0.47	0.36	0.34	1.17	0.29	0.19	0.78	0.24	0.00	1.23	0.00
13	0.14	0.47	0.30	0.04	1.17	0.03	0.00	0.78	0.00	0.02	1.11	0.02
14	0.09	0.47	0.19	0.04	1.15	0.03	0.00	0.78	0.00	0.01	1.23	0.01
15	0.03	0.32	0.09	0.07	1.14	0.06	0.00	0.78	0.00	0.12	1.16	0.10
16	0.00	0.00	NA	0.04	1.11	0.04	0.02	0.76	0.03	0.14	1.23	0.11
17	0.00	0.00	NA	0.03	1.09	0.03	0.33	0.76	0.43	0.36	1.22	0.30
18	0.00	0.00	NA	0.93	1.14	0.82	0.48	0.78	0.62	0.07	1.23	0.06
19	0.00	0.00	NA	0.26	1.21	0.21	0.00	0.78	0.00	0.03	1.11	0.03
20	0.00	0.00	NA	0.00	1.21	0.00	0.00	0.78	0.00	0.21	1.22	0.17
21	0.00	0.00	NA	0.00	1.21	0.00	0.00	0.78	0.00	0.03	1.11	0.03
22	0.00	0.00	NA	0.00	1.17	0.00	0.05	0.78	0.06	0.03	0.32	0.09
23	0.00	0.00	NA	0.03	1.15	0.03	0.09	0.78	0.12	0.00	0.00	NA
24	0.00	0.00	NA	0.02	1.14	0.02	0.11	0.76	0.14	0.34	0.95	0.36
25	0.00	0.00	NA	0.06	1.11	0.05	0.18	0.76	0.24	0.40	1.26	0.32
26	0.00	0.00	NA	0.06	1.09	0.05	0.19	0.73	0.26	0.00	1.23	0.00
27	0.00	0.00	NA	0.04	1.06	0.04	0.15	0.72	0.21	0.00	1.23	0.00
28	0.00	0.00	NA	0.01	1.03	0.01	0.12	0.72	0.17	0.01	0.95	0.01
29	0.00	0.00	NA	0.01	0.61	0.02	0.13	0.72	0.18	0.21	1.23	0.17
30	0.00	0.00	NA	0.01	0.30	0.03	0.10	0.59	0.17	0.00	1.23	0.00
	Average =		0.20	Average =		0.13	Average =		0.14	Average =		0.11

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
MAY 2006

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.00	0.00	NA	0.36	1.09	0.33	0.27	0.78	0.35	0.01	1.26	0.01
2	0.00	0.00	NA	0.70	1.21	0.58	0.46	0.78	0.59	0.31	1.26	0.25
3	0.59	0.32	1.84	0.26	1.21	0.21	0.30	0.78	0.38	0.04	1.26	0.03
4	0.07	0.63	0.11	0.13	1.21	0.11	0.19	0.78	0.24	0.04	1.26	0.03
5	0.01	0.44	0.02	0.23	1.09	0.21	0.21	0.70	0.30	0.24	1.13	0.21
6	0.00	0.00	NA	0.26	0.85	0.31	0.14	0.62	0.23	0.07	0.95	0.07
7	0.00	0.00	NA	0.19	1.09	0.17	0.15	0.70	0.21	0.04	0.63	0.06
8	0.48	0.63	0.76	0.12	1.21	0.10	0.16	0.78	0.21	0.22	0.32	0.69
9	0.43	0.63	0.68	0.40	1.21	0.33	0.21	0.78	0.27	0.33	1.26	0.26
10	0.15	0.63	0.24	0.24	1.21	0.20	0.21	0.78	0.27	0.14	1.26	0.11
11	0.08	0.63	0.13	0.17	1.21	0.14	0.05	0.78	0.06	0.11	1.26	0.09
12	0.10	0.57	0.18	0.12	1.03	0.12	0.17	0.74	0.23	0.23	1.13	0.20
13	0.09	0.32	0.28	0.12	0.61	0.20	0.14	0.66	0.21	0.06	1.01	0.06
14	0.02	0.50	0.04	0.10	0.30	0.33	0.12	0.62	0.19	0.12	0.95	0.13
15	0.31	0.63	0.49	0.40	1.21	0.33	0.10	0.78	0.13	0.18	1.26	0.14
16	0.22	0.63	0.35	0.54	1.21	0.45	0.07	0.78	0.09	0.41	1.26	0.33
17	0.13	0.63	0.21	1.10	1.21	0.91	0.07	0.70	0.10	0.10	1.26	0.08
18	0.10	0.63	0.16	0.09	1.21	0.07	0.05	0.62	0.08	0.12	1.26	0.10
19	0.11	0.57	0.19	0.13	1.09	0.12	0.02	0.59	0.03	0.17	1.13	0.15
20	0.22	0.63	0.35	0.12	0.91	0.13	0.00	0.47	0.00	0.13	1.01	0.13
21	0.40	0.63	0.63	0.17	0.85	0.20	0.00	0.39	0.00	0.17	0.95	0.18
22	0.46	0.63	0.73	0.15	1.21	0.12	0.00	0.47	0.00	0.24	1.26	0.19
23	0.23	0.63	0.37	0.13	1.21	0.11	0.00	0.39	0.00	0.43	1.26	0.34
24	0.00	0.63	0.00	0.00	1.21	0.00	0.00	0.31	0.00	0.00	1.26	0.00
25	0.06	0.60	0.10	0.00	1.09	0.00	0.00	0.20	0.00	0.13	1.13	0.12
26	0.15	0.50	0.30	0.00	0.91	0.00	0.00	0.08	0.00	0.24	0.95	0.25
27	0.26	0.47	0.55	0.00	0.61	0.00	0.00	0.00	NA	0.17	0.76	0.22
28	0.18	0.50	0.36	0.00	0.00	NA	0.00	0.00	NA	0.11	0.50	0.22
29	0.22	0.54	0.41	0.00	0.00	NA	0.00	0.00	NA	0.03	0.32	0.09
30	0.45	0.63	0.71	0.68	1.21	0.56	0.00	0.00	NA	0.21	0.00	NA
31	0.32	0.63	0.51	0.03	1.21	0.02	0.00	0.00	NA	0.46	1.26	0.37
	Average =		**0.40**	**Average =**		**0.22**	**Average =**		**0.16**	**Average =**		**0.17**

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
JUNE 2006

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.15	0.63	0.24	1.11	1.21	0.92	0.00	0.00	NA	0.04	1.26	0.03
2	0.13	0.63	0.21	0.00	0.00	NA	0.00	0.00	NA	0.09	1.26	0.07
3	0.33	0.63	0.52	0.00	0.00	NA	0.00	0.00	NA	0.23	1.26	0.18
4	0.39	0.63	0.62	0.00	0.00	NA	0.00	0.00	NA	0.06	1.26	0.05
5	0.35	0.63	0.56	0.00	0.00	NA	0.00	0.00	NA	0.21	1.16	0.18
6	0.14	0.63	0.22	0.00	0.00	NA	0.00	0.00	NA	0.04	1.11	0.04
7	0.00	0.63	0.00	0.00	0.00	NA	0.00	0.00	NA	0.00	0.95	0.00
8	0.31	0.63	0.49	0.16	1.14	0.14	0.00	0.00	NA	0.14	0.32	0.44
9	0.40	0.63	0.63	0.25	1.21	0.21	0.00	0.00	NA	0.30	1.23	0.24
10	NA	NA	NA	0.21	1.21	0.17	0.00	0.00	NA	0.06	1.22	0.05
11	NA	NA	NA	0.21	1.17	0.18	0.00	0.00	NA	0.22	1.16	0.19
12	NA	NA	NA	0.20	1.17	0.17	0.00	0.00	NA	0.06	1.11	0.05
13	NA	NA	NA	0.34	1.17	0.29	0.58	0.20	2.90	0.06	0.32	0.19
14	NA	NA	NA	0.25	1.17	0.21	0.88	0.78	1.13	0.01	0.00	NA
15	NA	NA	NA	0.34	1.15	0.30	0.00	0.78	0.00	0.00	0.00	NA
16	NA	NA	NA	0.22	1.14	0.19	0.02	0.76	0.03	0.00	0.00	NA
17	NA	NA	NA	0.18	1.14	0.16	0.13	0.72	0.18	0.00	0.00	NA
18	NA	NA	NA	0.17	1.11	0.15	0.18	0.72	0.25	0.00	0.00	NA
19	NA	NA	NA	0.15	1.09	0.14	0.65	0.76	0.86	0.00	0.00	NA
20	NA	NA	NA	0.13	1.09	0.12	0.11	0.78	0.14	0.00	0.00	NA
21	NA	NA	NA	0.11	1.06	0.10	0.17	0.76	0.22	0.00	0.00	NA
22	NA	NA	NA	0.10	1.03	0.10	0.15	0.73	0.21	0.00	0.00	NA
23	NA	NA	NA	0.06	1.03	0.06	0.17	0.72	0.24	0.00	0.00	NA
24	NA	NA	NA	0.05	0.61	0.08	0.12	0.59	0.20	0.00	0.00	NA
25	NA	NA	NA	0.04	0.30	0.13	0.03	0.39	0.08	0.00	0.00	NA
26	NA	NA	NA	0.04	0.30	0.13	0.00	0.00	NA	0.00	0.00	NA
27	NA	NA	NA	0.13	0.12	1.08	1.03	0.72	1.43	0.00	0.00	NA
28	NA	NA	NA	0.18	0.30	0.60	0.71	0.78	0.91	0.00	0.00	NA
29	NA	NA	NA	0.03	0.30	0.10	0.00	0.78	0.00	0.00	0.00	NA
30	NA	NA	NA	0.03	0.12	0.25	0.02	0.78	0.03	0.00	0.00	NA
	Average =		0.39	Average =		0.25	Average =		0.46	Average =		0.13

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
JULY 2006

Day	Cell 1			Cell 2			Cell 3			Cell 4*		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.11	0.58	0.19	0.01	0.05	0.17	0.05	0.78	0.06	0.00	0.00	N/A
2	0.23	0.63	0.37	0.01	0.02	0.50	0.06	0.78	0.08	0.00	0.00	N/A
3	0.09	0.58	0.16	0.00	0.00	N/A	0.17	0.78	0.22	0.00	0.00	N/A
4	0.05	0.47	0.11	0.00	0.00	N/A	0.21	0.76	0.28	0.00	0.00	N/A
5	0.00	0.32	0.00	0.00	0.00	N/A	0.24	0.73	0.33	0.00	0.00	N/A
6	0.06	0.32	0.19	0.00	0.00	N/A	0.22	0.72	0.31	0.00	0.00	N/A
7	0.00	0.16	0.00	0.00	0.00	N/A	0.16	0.72	0.22	0.00	0.00	N/A
8	0.00	0.16	0.00	0.00	0.00	N/A	0.17	0.59	0.29	0.00	0.00	N/A
9	0.04	0.16	0.25	0.00	0.00	N/A	0.13	0.39	0.33	0.00	0.00	N/A
10	0.04	0.06	0.67	0.00	0.00	N/A	0.07	0.20	0.35	0.00	0.00	N/A
11	0.04	0.06	0.67	0.00	0.00	N/A	0.02	0.08	0.25	0.00	0.00	N/A
12	0.05	0.06	0.83	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
13	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
14	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
15	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
16	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
17	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
18	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
19	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
20	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
21	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
22	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
23	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
24	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
25	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
26	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
27	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
28	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
29	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
30	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
31	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
	Average =		0.29	Average =		0.33	Average =		0.25	Average =		N/A

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
AUGUST 2006

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
2	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
3	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
4	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
5	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
6	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
7	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
8	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
9	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
10	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
11	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
12	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
13	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
14	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
15	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
16	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
17	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
18	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
19	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
20	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
21	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
22	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
23	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
24	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
25	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
26	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
27	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
28	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
29	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
30	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
31	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
	Average =		N/A	Average =		N/A	Average =		N/A	Average =		N/A

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
SEPTEMBER 2006

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
2	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
3	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
4	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
5	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
6	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
7	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
8	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
9	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
10	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
11	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
12	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
13	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
14	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
15	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
16	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
17	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
18	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
19	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
20	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
21	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
22	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
23	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
24	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
25	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
26	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
27	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
28	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
29	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
30	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A	0.00	0.00	N/A
	Average =		N/A	Average =		N/A	Average =		N/A	Average =		N/A

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
OCTOBER 2006

	Cell 1			Cell 2			Cell 3			Cell 4		
Day	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
2	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
3	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
4	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
5	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
6	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
7	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
8	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
9	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
10	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
11	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
12	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
13	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
14	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
15	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
16	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
17	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
18	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
19	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
20	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
21	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
22	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
23	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
24	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
25	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
26	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
27	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
28	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
29	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
30	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
31	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
		Average =	NA		Average =	NA		Average =	NA		Average =	NA

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
NOVEMBER 2006

Day	Cell 1			Cell 2			Cell 3			Cell 4		
	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
2	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
3	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
4	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
5	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
6	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
7	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
8	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
9	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
10	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
11	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
12	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
13	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
14	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
15	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
16	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
17	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
18	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
19	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
20	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
21	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
22	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
23	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
24	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
25	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
26	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
27	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
28	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
29	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
30	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
	Average =		**NA**	**Average =**		**NA**	**Average =**		**NA**	**Average =**		**NA**

TABLE 3
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
DAILY INFILTRATION RATES
DECEMBER 2006

		Cell 1			Cell 2			Cell 3			Cell 4	
Day	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)	Recharge Volume (AF)	Wetted Area (acres)	Infiltration Rate (feet/day)
1	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
2	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
3	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
4	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	0.00	NA
5	0.00	0.00	NA	0.43	0.12	3.58	0.00	0.00	NA	0.68	0.95	0.72
6	0.00	0.00	NA	0.84	0.30	2.80	0.00	0.00	NA	1.40	1.16	1.21
7	0.00	0.00	NA	0.51	0.30	1.70	0.00	0.00	NA	1.27	1.16	1.09
8	0.00	0.00	NA	0.52	0.30	1.73	0.00	0.00	NA	1.29	1.16	1.11
9	0.00	0.00	NA	0.52	0.30	1.73	0.00	0.00	NA	1.29	1.16	1.11
10	0.00	0.00	NA	0.47	0.30	1.57	0.00	0.00	NA	1.26	1.16	1.09
11	0.00	0.00	NA	0.45	0.30	1.50	0.00	0.00	NA	1.22	1.16	1.05
12	0.00	0.00	NA	0.45	0.30	1.50	0.00	0.00	NA	1.17	1.22	0.96
13	0.00	0.00	NA	0.47	0.30	1.57	0.00	0.00	NA	1.13	1.22	0.93
14	0.00	0.00	NA	0.47	0.12	3.92	0.00	0.00	NA	1.10	1.22	0.90
15	0.00	0.00	NA	0.45	0.12	3.75	0.00	0.00	NA	1.10	1.22	0.90
16	0.00	0.00	NA	0.44	0.12	3.67	0.00	0.00	NA	1.08	1.22	0.89
17	0.00	0.00	NA	0.44	0.12	3.67	0.00	0.00	NA	1.06	1.22	0.87
18	0.00	0.00	NA	0.44	0.12	3.67	0.00	0.00	NA	1.05	1.22	0.86
19	0.00	0.00	NA	0.47	0.12	3.92	0.00	0.00	NA	1.04	1.22	0.85
20	0.00	0.00	NA	0.60	0.12	5.00	0.00	0.00	NA	1.26	1.23	1.02
21	0.00	0.00	NA	1.27	0.61	2.08	0.00	0.00	NA	1.22	1.23	0.99
22	0.00	0.00	NA	1.22	1.03	1.18	0.00	0.00	NA	0.92	1.23	0.75
23	0.00	0.00	NA	0.65	0.61	1.07	0.00	0.00	NA	0.97	1.23	0.79
24	0.00	0.00	NA	0.45	0.12	3.75	0.61	0.20	3.05	0.95	1.22	0.78
25	0.00	0.00	NA	0.52	0.12	4.33	0.64	0.73	0.88	1.21	1.22	0.99
26	0.00	0.00	NA	0.88	0.30	2.93	0.64	0.72	0.89	1.26	1.23	1.02
27	0.00	0.00	NA	1.00	0.61	1.64	0.71	0.59	1.20	0.94	1.23	0.76
28	0.00	0.00	NA	1.06	0.61	1.74	0.39	0.73	0.53	1.25	1.23	1.02
29	0.25	0.15	1.56	1.06	1.03	1.03	0.33	0.73	0.45	1.02	1.23	0.83
30	0.63	0.32	1.97	0.61	0.30	2.03	0.36	0.72	0.50	1.06	1.23	0.86
31	0.64	0.47	1.36	0.54	0.12	4.50	0.37	0.72	0.51	1.09	1.23	0.89
	Average =		1.63	Average =		2.65	Average =		1.31	Average =		0.93

TABLE 4
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
WATER QUALITY SUMMARY: CALENDAR YEAR 2006

Constituent	Unit	Sample Date and Location: Source Water											
		Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06
Nutrients													
Total Nitrogen[1]	mg/l	35.7	39.0	30.0	38.0	28.0	29.0	26.0	No Event	No Event	27.0	24.0	23.0
Nitrate-Nitrite as N	mg/l	1.7	1.0	1.4	0.8	1.9	1.8	3.9	No Event	No Event	3.7	3.0	3.8
Total Kjeldahl Nitrogen (TKN)	mg/l	34.0	38.0	28.0	37.0	26.0	27.0	22.0	No Event	No Event	23.0	21.0	19.0
Metals (Total)													
Arsenic	mg/l	No Event	0.0037	No Event	No Event	No Event	0.0058	No Event	No Event	No Event	No Event	No Event	0.0042
Barium	mg/l	No Event	0.053	No Event	No Event	No Event	0.071	No Event	No Event	No Event	No Event	No Event	< 0.0010
Cadmium	mg/l	No Event	< 0.0010	No Event	No Event	No Event	< 0.0010	No Event	No Event	No Event	No Event	No Event	< 0.0010
Chromium	mg/l	No Event	0.0018	No Event	No Event	No Event	0.0017	No Event	No Event	No Event	No Event	No Event	0.0013
Lead	mg/l	No Event	0.0012	No Event	No Event	No Event	0.002	No Event	No Event	No Event	No Event	No Event	0.0019
Antimony	mg/l	No Event	< 0.0030	No Event	No Event	No Event	< 0.0030	No Event	No Event	No Event	No Event	No Event	< 0.0030
Beryllium	mg/l	No Event	< 0.0010	No Event	No Event	No Event	< 0.0010	No Event	No Event	No Event	No Event	No Event	< 0.0010
Nickel	mg/l	No Event	0.0036	No Event	No Event	No Event	0.0046	No Event	No Event	No Event	No Event	No Event	0.0048
Mercury	mg/l	No Event	< 0.00020	No Event	No Event	No Event	< 0.00020	No Event	No Event	No Event	No Event	No Event	< 0.00020
Selenium	mg/l	No Event	< 0.0020	No Event	No Event	No Event	0.0033	No Event	No Event	No Event	No Event	No Event	< 0.0020
Thallium	mg/l	No Event	< 0.0010	No Event	No Event	No Event	No Event	No Event	No Event	No Event	No Event	No Event	No Event
Volatile Organic Compounds (VOCs)													
Benzene	mg/l	No Event	< 0.0010	No Event	No Event	No Event	< 0.0010	No Event	No Event	No Event	No Event	No Event	< 0.0010
Carbon tetrachloride	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
o-Dichlorobenzene	mg/l	No Event	< 0.0010	No Event	No Event	No Event	< 0.0010	No Event	No Event	No Event	No Event	No Event	< 0.0010
para-Dichlorobenzene	mg/l	No Event	< 0.0010	No Event	No Event	No Event	< 0.0010	No Event	No Event	No Event	No Event	No Event	< 0.0010
1,2-Dichloroethane	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
1,1-Dichloroethylene	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
cis-1,2-Dichloroethylene	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
trans-1,2-Dichloroethylene	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
1,2-Dichloropropane	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
Ethylbenzene	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
Monochlorobenzene	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
Styrene	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
Tetrachloroethylene	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
Toluene	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
1,1,1-Trichloroethane	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
1,1,2-Trichloroethane	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
Trichloroethylene	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
Trihalomethanes (total THMs)	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
Vinyl Chloride	ug/l	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	No Event	No Event	No Event	< 1.0
Xylenes (Total)	ug/l	No Event	< 2.0	No Event	No Event	No Event	< 2.0	No Event	No Event	No Event	No Event	No Event	< 2.0

No Event = No sample was taken; No Flow = No flow in the effluent channel

[1] Total Nitrogen is equal to Nitrate-Nitrite-N plus TKN (Aquifer Protection Permit No. P-103195)

TABLE 4
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
WATER QUALITY SUMMARY: CALENDAR YEAR 2006

Constituent	Sample Date and Location: Monitor Well HP-1											
	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06
Nutrients												
Total Nitrogen[1]	4.8	2.6	2.8	2.4	5.4	3.2	3.2	3.3	No Event	5.8	2.7	2.3
Nitrate-Nitrite as N	2.8	2.6	2.8	2.4	2.8	3.2	3.2	3.3	No Event	2.8	2.7	2.3
Total Kjeldahl Nitrogen (TKN)	2.0	< 1.3	< 1.3	< 1.3	2.6	< 1.3	< 1.3	< 1.3	< 1.3	3.0	< 1.3	< 1.3
Metals (Total)												
Arsenic	No Event	0.0013	No Event	No Event	No Event	0.002	No Event	No Event	0.002	No Event	No Event	0.0014
Barium	No Event	0.14	No Event	No Event	No Event	0.17	No Event	No Event	0.15	No Event	No Event	0.15
Cadmium	No Event	< 0.0010	No Event	No Event	No Event	< 0.0010	No Event	No Event	< 0.0010	No Event	No Event	< 0.0010
Chromium	No Event	< 0.0010	No Event	No Event	No Event	< 0.0010	No Event	No Event	< 0.0010	No Event	No Event	< 0.0010
Lead	No Event	0.0041	No Event	No Event	No Event	0.0012	No Event	No Event	0.004	No Event	No Event	0.0092
Antimony	No Event	< 0.0030	No Event	No Event	No Event	< 0.0030	No Event	No Event	< 0.0030	No Event	No Event	< 0.0030
Beryllium	No Event	< 0.0010	No Event	No Event	No Event	< 0.0010	No Event	No Event	< 0.0010	No Event	No Event	< 0.0010
Nickel	No Event	0.0033	No Event	No Event	No Event	0.0036	No Event	No Event	0.011	No Event	No Event	0.0092
Mercury	No Event	< 0.00020	No Event	No Event	No Event	< 0.00020	No Event	No Event	< 0.00020	No Event	No Event	< 0.00020
Selenium	No Event	< 0.0020	No Event	No Event	No Event	0.0024	No Event	No Event	< 0.0020	No Event	No Event	< 0.0020
Thallium	No Event	< 0.0010	No Event	No Event	No Event	< 0.0010	No Event	No Event	< 0.0010	No Event	No Event	< 0.0010
Volatile Organic Compounds (VOCs)												
Benzene	No Event	< 0.0010	No Event	No Event	No Event	< 0.0010	No Event	No Event	< 0.0010	No Event	No Event	< 0.0010
Carbon tetrachloride	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
o-Dichlorobenzene	No Event	< 0.0010	No Event	No Event	No Event	< 0.0010	No Event	No Event	< 0.0010	No Event	No Event	< 0.0010
para-Dichlorobenzene	No Event	< 0.0010	No Event	No Event	No Event	< 0.0010	No Event	No Event	< 0.0010	No Event	No Event	< 0.0010
1,2-Dichloroethane	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
1,1-Dichloroethylene	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
cis-1,2-Dichloroethylene	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
trans-1,2-Dichloroethylene	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
1,2-Dichloropropane	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
Ethylbenzene	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
Monochlorobenzene	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
Styrene	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
Tetrachloroethylene	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
Toluene	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
1,1,1-Trichloroethane	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
1,1,2-Trichloroethane	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
Trichloroethylene	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
Trihalomethanes (total THMs)	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
Vinyl Chloride	No Event	< 1.0	No Event	No Event	No Event	< 1.0	No Event	No Event	< 1.0	No Event	No Event	< 1.0
Xylenes (Total)	No Event	< 2.0	No Event	No Event	No Event	< 2.0	No Event	No Event	< 2.0	No Event	No Event	< 2.0

No Event = No sample was taken; No Flow = N.

[1] Total Nitrogen is equal to Nitrate-Nitrite-N plus

TABLE 5
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
FACILITY INSPECTIONS: PROBLEMS AND RELATED SOLUTIONS
CALENDAR YEAR 2006

Date	Problem	Solution
January 2006	The submersible pumps at the Influent Lift Station (main pumps) are not operating in "auto" mode, meaning that they will not operate with the level sensors in the oxbow channel and Equalization Basin to turn the pumps on and off automatically.	Pumps were run manually by the daily operator for much of the duration of this year. An electrician was able to fix the problem in February of 2007, thus allowing automated operation of the submersible pumps with the level sensors.
January 2006	The level sensor in Cell 3 does not operate in "auto" mode, meaning that the butterfly valve will not open and close automatically with high and low levels in the cell.	This valve was open and closed manually by the daily operator using the control switch during the 2006 Calendar Year. PCRFCD staff are currently working with an electrician to fix this problem.
January 2006	Cell 2 is still not being operated due to a malfunctioning flow meter.	A new flow meter was installed in February 2006.
January 2006	Monitor well HP-2 is still damaged from maintenance work in 2005.	Monitor well was repaired in January 2006 and three bollards were set in place to help protect the well from future damage.
May 2006	Recharge cells are becoming very weedy.	Weeds were removed in November 2006, during operation down time. Delay in weed removal was due to maintenance scheduling of Pima County Operations, which performs maintenance work for many other County departments. PCRFCD staff contracted a firm in February 2007 to handle maintenance activities in case Pima County Operations has a busy schedule.
June 2006	A tee pipe connector for compliance well HP-1 is broken, thus affecting PCRFCD staff's ability to take water quality samples.	The tee pipe connector was repaired in June 2006 by a contracted well and pump company.
July 2006	Earthen diversion berm has been washed out by storm water flow in the Santa Cruz River.	The earthen berm was repaired in October 2006.

TABLE 5
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
FACILITY INSPECTIONS: PROBLEMS AND RELATED SOLUTIONS
CALENDAR YEAR 2006

October 2006	The submersible pumps at the Influent Lift Station are not operating.	A pump relay switch was by-passed and the pumps are temporarily being run in manual mode by the daily operator. An electrician was able to fully fix this problem in February 2007, thus allowing for automated control of the pumps.
December 2006	The level sensor in Cell 2 will not close the butterfly valve at the high water level in "auto" mode.	The valve is being opened and closed manually by the daily operator using the control switch. PCRFCD staff are working with an electrician to allow for automated control of the valve using the level sensor.
December 2006	The pump for compliance well HP-1 is losing capacity; flow has been reduced from 10 gallons per minute to 6 gallons per minute).	The pump was rewired by an electrician in January 2007 and now has a capacity of approximately 23 gallons per minute.

APPENDIX A

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
JANUARY 2006

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	0.00	0.12	0.00	0.00	0.00	0.12	0.01	0.01	0.10
2	1.28	0.12	0.00	0.02	0.00	0.15	0.01	0.02	0.12
3	1.86	0.10	0.00	0.00	0.06	0.16	0.01	0.01	0.14
4	0.49	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.00
5	0.00	0.02	0.00	0.00	0.13	0.15	0.01	0.01	0.13
6	0.00	0.10	0.00	0.00	0.00	0.11	0.01	0.02	0.08
7	0.00	0.11	0.00	0.00	0.01	0.12	0.01	0.02	0.09
8	0.00	0.18	0.00	0.00	0.27	0.45	0.01	0.01	0.43
9	0.91	0.19	0.00	0.18	0.09	0.46	0.01	0.01	0.44
10	1.86	0.42	0.00	0.42	0.57	1.40	0.01	0.01	1.38
11	1.86	0.13	0.00	0.86	0.02	1.00	0.01	0.01	0.98
12	0.79	0.05	0.00	0.00	0.01	0.06	0.01	0.01	0.04
13	0.00	0.09	0.00	0.00	0.30	0.39	0.01	0.02	0.36
14	0.00	0.11	0.00	0.00	0.00	0.11	0.01	0.01	0.09
15	0.00	0.13	0.00	0.00	0.00	0.14	0.01	0.01	0.11
16	0.85	0.16	0.00	0.00	0.25	0.41	0.01	0.01	0.39
17	1.86	0.18	0.00	0.00	0.34	0.52	0.01	0.01	0.50
18	0.65	0.07	0.00	0.00	0.00	0.08	0.01	0.01	0.06
19	0.00	0.08	0.00	0.01	0.01	0.10	0.01	0.01	0.07
20	0.00	0.07	0.00	0.00	0.20	0.27	0.01	0.01	0.25
21	0.00	0.09	0.00	0.00	0.01	0.10	0.01	0.01	0.08
22	0.00	0.06	0.00	0.00	0.01	0.06	0.01	0.01	0.04
23	1.20	0.27	0.00	0.39	0.11	0.77	0.01	0.01	0.74
24	1.86	0.20	0.00	0.74	0.47	1.41	0.01	0.01	1.38
25	1.86	0.14	0.00	0.93	0.01	1.08	0.01	0.02	1.05
26	0.72	0.07	0.00	0.00	0.03	0.10	0.01	0.01	0.08
27	0.00	0.09	0.00	0.00	0.13	0.22	0.01	0.02	0.19
28	0.00	0.07	0.00	0.00	0.00	0.08	0.01	0.01	0.05
29	0.00	0.06	0.00	0.00	0.01	0.09	0.01	0.01	0.07
30	0.00	0.30	0.00	0.00	0.24	0.54	0.01	0.01	0.51
31	0.00	0.06	0.00	0.00	0.05	0.13	0.01	0.01	0.10
Total	18.03	3.88	0.00	3.58	3.34	10.80	0.34	0.41	10.06

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET data (Marana Station)

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
FEBRUARY 2006

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	1.12	0.41	0.00	0.01	0.31	0.72	0.0151	0.0095	0.70
2	1.86	0.26	0.00	0.01	0.39	0.66	0.0151	0.0158	0.63
3	0.60	0.16	0.00	0.00	0.16	0.32	0.0151	0.0158	0.29
4	0.00	0.16	0.00	0.13	0.16	0.45	0.0151	0.0161	0.42
5	0.00	0.16	0.00	0.13	0.16	0.45	0.0151	0.0147	0.42
6	0.00	0.16	0.00	0.13	0.16	0.45	0.0151	0.0168	0.41
7	0.85	0.29	0.00	0.13	0.29	0.71	0.0151	0.0179	0.67
8	1.08	0.17	0.00	0.13	0.10	0.39	0.0151	0.0189	0.36
9	1.74	0.07	0.03	0.00	0.00	0.11	0.0153	0.0084	0.08
10	1.86	0.40	0.31	0.00	0.12	0.83	0.0280	0.0147	0.78
11	1.74	1.09	0.78	0.00	0.16	2.03	0.0280	0.0179	1.99
12	0.00	0.19	0.87	0.00	0.37	1.42	0.0280	0.0189	1.37
13	1.29	0.08	0.41	0.00	0.01	0.50	0.0280	0.0179	0.45
14	1.37	0.07	0.02	0.00	0.01	0.10	0.0272	0.0200	0.05
15	0.00	0.24	0.04	0.00	0.19	0.47	0.0261	0.0294	0.41
16	0.00	0.08	0.01	0.09	0.00	0.17	0.0249	0.0134	0.13
17	0.00	0.11	0.00	0.00	0.00	0.11	0.0238	0.0071	0.08
18	0.00	0.07	0.00	0.00	0.03	0.10	0.0206	0.0088	0.07
19	0.00	0.28	0.00	0.00	0.24	0.52	0.0161	0.0147	0.49
20	1.20	0.17	0.05	0.34	0.10	0.66	0.0114	0.0116	0.64
21	1.86	0.29	0.30	0.13	0.24	0.95	0.0248	0.0158	0.91
22	1.86	0.46	0.72	0.12	0.18	1.47	0.0280	0.0158	1.43
23	1.86	0.15	0.23	0.00	0.31	0.70	0.0280	0.0179	0.65
24	0.64	0.06	0.01	0.01	0.00	0.08	0.0280	0.0158	0.03
25	0.00	0.04	0.01	0.01	0.02	0.07	0.0267	0.0179	0.02
26	0.00	0.06	0.00	0.01	0.18	0.25	0.0254	0.0200	0.21
27	1.21	0.66	0.65	0.01	0.00	1.33	0.0248	0.0200	1.28
28	1.86	0.17	1.23	0.56	0.01	1.97	0.0280	0.0179	1.93
Total	23.98	6.50	5.65	1.93	3.90	17.98	0.6116	0.4486	16.92

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET data (Marana Station)

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
MARCH 2006

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	1.86	0.10	0.37	0.16	0.22	0.85	0.0400	0.0053	0.80
2	0.62	0.06	0.01	0.00	0.03	0.10	0.0400	0.0200	0.04
3	0.00	0.07	0.01	0.00	0.04	0.13	0.0400	0.0221	0.07
4	0.00	0.06	0.00	0.00	0.22	0.29	0.0382	0.0158	0.23
5	0.00	0.04	0.00	0.01	0.10	0.15	0.0363	0.0231	0.09
6	1.26	0.26	0.92	0.17	0.19	1.54	0.0354	0.0252	1.48
7	1.86	0.18	0.74	0.16	0.26	1.33	0.0400	0.0189	1.28
8	1.86	0.15	0.38	0.24	0.33	1.10	0.0400	0.0200	1.04
9	1.86	0.11	0.24	0.12	0.33	0.80	0.0400	0.0221	0.74
10	0.52	0.16	0.06	0.14	0.00	0.36	0.0400	0.0158	0.30
11	0.00	0.21	0.04	0.46	0.02	0.72	0.0400	0.0095	0.67
12	0.00	0.06	0.01	0.04	0.04	0.15	0.0391	0.0158	0.10
13	0.97	0.39	0.72	0.15	0.41	1.67	0.0382	0.0168	1.61
14	1.86	0.21	0.52	0.14	0.21	1.08	0.0400	0.0151	1.03
15	1.86	0.06	1.01	0.00	0.03	1.09	0.0389	0.0150	1.04
16	1.86	0.09	0.62	0.00	0.35	1.05	0.0400	0.0163	0.99
17	0.53	0.11	0.00	0.00	0.00	0.11	0.0400	0.0227	0.05
18	0.00	0.12	0.01	0.05	0.02	0.19	0.0397	0.0213	0.13
19	0.00	0.09	0.00	0.03	0.26	0.38	0.0388	0.0041	0.34
20	1.26	0.19	0.45	0.21	0.31	1.16	0.0379	0.0154	1.10
21	1.86	0.14	0.29	0.15	0.17	0.75	0.0391	0.0216	0.69
22	0.56	0.07	0.01	0.00	0.12	0.21	0.0386	0.0183	0.15
23	0.00	0.11	0.02	0.01	0.29	0.43	0.0371	0.0173	0.38
24	0.00	0.09	0.01	0.03	0.00	0.14	0.0363	0.0263	0.07
25	0.00	0.10	0.00	0.03	0.06	0.19	0.0252	0.0278	0.13
26	0.00	0.09	0.00	0.03	0.16	0.27	0.0206	0.0193	0.23
27	1.24	0.41	0.31	0.17	0.28	1.17	0.0219	0.0145	1.14
28	1.86	0.34	1.01	0.15	0.31	1.81	0.0357	0.0183	1.76
29	1.86	0.34	0.63	0.50	0.39	1.87	0.0386	0.0278	1.80
30	0.58	0.10	0.36	0.21	0.07	0.73	0.0395	0.0185	0.67
31	0.00	0.10	0.02	0.00	0.07	0.19	0.0400	0.0231	0.13
Total	26.09	4.60	8.76	3.37	5.29	22.03	1.1554	0.5726	20.30

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET data (Marana Station)

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
APRIL 2006

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	0.00	0.06	0.02	0.00	0.28	0.37	0.06	0.02	0.28
2	0.00	0.07	0.01	0.01	0.01	0.10	0.06	0.02	0.02
3	1.18	0.35	0.59	0.25	0.04	1.23	0.06	0.02	1.15
4	1.86	0.09	0.79	0.20	0.52	1.60	0.06	0.01	1.53
5	1.86	0.13	0.45	0.02	0.04	0.63	0.06	0.03	0.55
6	0.57	0.02	0.00	0.01	0.07	0.11	0.06	0.02	0.03
7	0.00	0.08	0.00	0.03	0.25	0.37	0.06	0.02	0.29
8	0.00	0.11	0.02	0.03	0.01	0.17	0.06	0.03	0.08
9	0.00	0.12	0.03	0.02	0.02	0.20	0.06	0.03	0.11
10	1.22	0.12	0.23	0.26	0.34	0.95	0.06	0.02	0.88
11	1.86	0.24	0.58	0.36	0.39	1.56	0.06	0.03	1.48
12	1.86	0.18	0.37	0.21	0.01	0.77	0.06	0.03	0.69
13	0.45	0.15	0.07	0.00	0.05	0.27	0.06	0.03	0.19
14	0.00	0.10	0.07	0.00	0.04	0.21	0.06	0.03	0.12
15	0.00	0.03	0.10	0.00	0.14	0.27	0.05	0.02	0.20
16	0.00	0.00	0.07	0.04	0.17	0.28	0.05	0.03	0.20
17	1.28	0.00	0.06	0.34	0.39	0.80	0.04	0.03	0.72
18	1.86	0.00	0.96	0.50	0.09	1.55	0.04	0.03	1.48
19	1.12	0.00	0.29	0.00	0.06	0.35	0.05	0.03	0.27
20	0.00	0.00	0.00	0.00	0.24	0.25	0.05	0.03	0.17
21	0.00	0.00	0.00	0.01	0.05	0.07	0.05	0.02	0.00
22	0.00	0.00	0.01	0.07	0.04	0.11	0.05	0.01	0.06
23	0.00	0.00	0.06	0.11	0.00	0.17	0.04	0.00	0.12
24	1.24	0.00	0.04	0.13	0.36	0.53	0.04	0.02	0.47
25	1.86	0.00	0.09	0.19	0.43	0.71	0.04	0.03	0.64
26	1.39	0.00	0.08	0.21	0.01	0.30	0.04	0.03	0.22
27	0.66	0.00	0.06	0.17	0.02	0.25	0.04	0.03	0.18
28	0.00	0.00	0.03	0.14	0.03	0.20	0.04	0.02	0.14
29	0.00	0.00	0.02	0.14	0.24	0.40	0.03	0.03	0.34
30	0.00	0.00	0.01	0.11	0.01	0.13	0.02	0.03	0.08
Total	20.24	1.85	5.11	3.59	4.35	14.91	1.48	0.74	12.70

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET data (Marana Station)

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
MAY 2006

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	1.21	0.00	0.39	0.29	0.05	0.72	0.05	0.03	0.64
2	1.86	0.00	0.74	0.48	0.34	1.56	0.06	0.04	1.47
3	1.86	0.59	0.29	0.32	0.07	1.27	0.06	0.03	1.17
4	0.54	0.09	0.16	0.22	0.08	0.55	0.07	0.04	0.43
5	0.00	0.02	0.26	0.23	0.27	0.78	0.06	0.03	0.69
6	0.00	0.00	0.29	0.16	0.10	0.54	0.04	0.02	0.48
7	0.00	0.00	0.22	0.17	0.05	0.44	0.05	0.02	0.37
8	1.29	0.49	0.16	0.18	0.23	1.05	0.07	0.01	0.97
9	1.86	0.45	0.44	0.24	0.37	1.49	0.07	0.04	1.38
10	1.86	0.17	0.27	0.23	0.17	0.85	0.07	0.03	0.74
11	0.54	0.10	0.20	0.07	0.15	0.52	0.07	0.03	0.41
12	0.00	0.12	0.15	0.19	0.27	0.73	0.07	0.03	0.63
13	0.00	0.10	0.14	0.16	0.09	0.49	0.04	0.03	0.41
14	0.00	0.04	0.10	0.14	0.15	0.43	0.04	0.03	0.36
15	1.34	0.33	0.43	0.12	0.20	1.08	0.07	0.02	0.99
16	1.86	0.23	0.57	0.09	0.44	1.34	0.07	0.04	1.23
17	1.86	0.14	1.13	0.09	0.12	1.48	0.07	0.03	1.39
18	0.85	0.12	0.12	0.07	0.15	0.46	0.06	0.03	0.37
19	0.00	0.13	0.16	0.04	0.20	0.52	0.06	0.03	0.44
20	0.00	0.24	0.14	0.02	0.16	0.56	0.06	0.03	0.47
21	0.00	0.42	0.19	0.01	0.20	0.82	0.06	0.03	0.73
22	1.28	0.48	0.18	0.00	0.29	0.94	0.06	0.05	0.83
23	1.86	0.25	0.16	0.00	0.47	0.88	0.06	0.03	0.78
24	0.54	0.00	0.00	0.00	0.00	0.00	0.06	0.04	-0.10
25	0.00	0.08	0.00	0.00	0.16	0.24	0.05	0.04	0.15
26	0.00	0.17	0.00	0.00	0.27	0.44	0.04	0.03	0.36
27	0.00	0.27	0.00	0.00	0.20	0.47	0.03	0.03	0.41
28	0.00	0.20	0.00	0.00	0.12	0.32	0.01	0.01	0.29
29	0.00	0.24	0.00	0.00	0.04	0.28	0.02	0.01	0.26
30	1.28	0.46	0.72	0.00	0.21	1.39	0.05	0.00	1.34
31	1.86	0.33	0.07	0.00	0.50	0.90	0.05	0.04	0.81
Total	23.72	6.25	7.68	3.51	6.11	23.54	1.74	0.89	20.91

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970)

4 Calculated for Recharge Cell 4 using AZMET data (Marana Station)

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
JUNE 2006

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated EV Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	1.86	0.17	1.14	0.00	0.08	1.39	0.06	0.04	1.30
2	1.86	0.14	0.00	0.00	0.13	0.27	0.02	0.03	0.22
3	0.49	0.35	0.00	0.00	0.27	0.63	0.02	0.04	0.57
4	0.00	0.41	0.00	0.00	0.11	0.51	0.02	0.04	0.45
5	0.00	0.37	0.00	0.00	0.24	0.61	0.02	0.03	0.56
6	0.00	0.16	0.00	0.00	0.06	0.22	0.02	0.03	0.18
7	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	-0.04
8	1.08	0.33	0.19	0.00	0.14	0.67	0.05	0.01	0.60
9	1.86	0.41	0.29	0.00	0.34	1.04	0.06	0.04	0.94
10	0.46	0.00	0.25	0.00	0.10	0.35	0.04	0.04	0.27
11	0.00	0.00	0.25	0.00	0.26	0.51	0.04	0.04	0.43
12	0.00	0.00	0.24	0.00	0.10	0.33	0.04	0.04	0.26
13	1.24	0.00	0.37	0.58	0.07	1.02	0.04	0.01	0.97
14	1.86	0.00	0.28	0.90	0.01	1.19	0.06	0.00	1.13
15	0.53	0.00	0.37	0.01	0.00	0.39	0.06	0.00	0.33
16	0.00	0.00	0.25	0.04	0.00	0.30	0.06	0.00	0.24
17	0.00	0.00	0.21	0.16	0.00	0.37	0.06	0.00	0.31
18	0.00	0.00	0.20	0.20	0.00	0.40	0.06	0.00	0.34
19	1.26	0.00	0.18	0.68	0.00	0.86	0.06	0.00	0.80
20	0.79	0.00	0.17	0.13	0.00	0.30	0.06	0.00	0.24
21	0.00	0.00	0.14	0.19	0.00	0.34	0.05	0.00	0.28
22	0.00	0.00	0.13	0.17	0.00	0.30	0.05	0.00	0.24
23	0.00	0.00	0.10	0.19	0.00	0.29	0.05	0.00	0.24
24	0.00	0.00	0.07	0.13	0.00	0.21	0.04	0.00	0.17
25	0.00	0.00	0.05	0.04	0.00	0.09	0.02	0.00	0.07
26	0.00	0.00	0.05	0.00	0.00	0.05	0.01	0.00	0.04
27	1.13	0.00	0.14	1.05	0.00	1.19	0.03	0.00	1.17
28	1.86	0.00	0.19	0.73	0.00	0.92	0.03	0.00	0.89
29	0.51	0.00	0.04	0.00	0.00	0.04	0.03	0.00	0.01
30	0.00	0.00	0.04	0.05	0.00	0.08	0.03	0.00	0.05
Total	16.78	2.35	5.33	5.27	1.90	14.86	1.17	0.41	13.28

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET (Marana Station) data

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
JULY 2006

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	0.00	0.12	0.00	0.07	0.00	0.20	0.04	0.00	0.16
2	0.00	0.25	0.01	0.08	0.00	0.34	0.04	0.00	0.30
3	0.00	0.10	0.00	0.19	0.00	0.30	0.04	0.00	0.26
4	0.00	0.07	0.00	0.23	0.00	0.30	0.03	0.00	0.26
5	0.00	0.01	0.00	0.26	0.00	0.27	0.03	0.00	0.24
6	0.00	0.07	0.00	0.24	0.00	0.32	0.03	0.00	0.29
7	0.00	0.01	0.00	0.18	0.00	0.19	0.02	0.00	0.17
8	0.00	0.01	0.00	0.18	0.00	0.19	0.02	0.00	0.17
9	0.61	0.04	0.00	0.14	0.00	0.19	0.02	0.00	0.17
10	0.00	0.05	0.00	0.08	0.00	0.12	0.01	0.00	0.12
11	0.00	0.04	0.00	0.02	0.00	0.07	0.00	0.00	0.06
12	0.00	0.05	0.00	0.00	0.00	0.05	0.00	0.00	0.05
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.61	0.82	0.02	1.70	0.00	2.54	0.29	0.00	2.25

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970)

4 Calculated for Recharge Cell 4 using AZMET data (Marana Station)

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
AUGUST 2006

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET (Marana Station) data

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
SEPTEMBER 2006

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow (AF)	Calculated Evaporation Volume (AF)	Calculated ET Volume (AF)	Net Recharge (AF)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET (Marana Station) data

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
OCTOBER 2006

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated EV Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET data from the Tucson Station, modified for the Marana area.

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
NOVEMBER 2006

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated EV Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET (Marana Station) data

APPENDIX A
MARANA HIGH PLAINS EFFLUENT RECHARGE PROJECT
MONTHLY ACCOUNTING REPORT
DECEMBER 2006

1	2	3	4	5	6	7	8	9	10
Day	Project Inflow[1] (AF)	Cell 1 Inflow (AF)	Cell 2 Inflow (AF)	Cell 3 Inflow (AF)	Cell 4 Inflow (AF)	Total Recharge Inflow[2] (AF)	Calculated Evaporation Volume[3] (AF)	Calculated ET Volume[4] (AF)	Net Recharge (AF)
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	1.62	0.00	0.43	0.00	0.70	1.12	0.00	0.01	1.11
6	1.86	0.00	0.84	0.00	1.42	2.26	0.00	0.01	2.24
7	1.86	0.00	0.51	0.00	1.28	1.80	0.00	0.02	1.78
8	1.86	0.00	0.52	0.00	1.31	1.84	0.00	0.02	1.81
9	1.86	0.00	0.52	0.00	1.30	1.82	0.00	0.01	1.80
10	1.86	0.00	0.48	0.00	1.28	1.75	0.00	0.01	1.74
11	1.86	0.00	0.45	0.00	1.23	1.68	0.00	0.01	1.67
12	1.86	0.00	0.45	0.00	1.18	1.63	0.00	0.01	1.61
13	1.86	0.00	0.47	0.00	1.14	1.61	0.00	0.01	1.60
14	1.86	0.00	0.47	0.00	1.12	1.58	0.00	0.01	1.57
15	1.86	0.00	0.45	0.00	1.11	1.57	0.00	0.01	1.55
16	1.86	0.00	0.44	0.00	1.10	1.54	0.00	0.02	1.52
17	1.86	0.00	0.44	0.00	1.07	1.50	0.00	0.01	1.49
18	1.86	0.00	0.44	0.00	1.06	1.50	0.00	0.01	1.49
19	1.86	0.00	0.47	0.00	1.04	1.51	0.00	0.01	1.51
20	2.60	0.00	0.60	0.00	1.27	1.87	0.00	0.01	1.86
21	3.09	0.00	1.27	0.00	1.23	2.50	0.00	0.01	2.48
22	2.37	0.00	1.23	0.00	0.93	2.16	0.01	0.01	2.14
23	1.86	0.00	0.65	0.00	0.97	1.62	0.00	0.01	1.61
24	2.34	0.00	0.45	0.61	0.96	2.02	0.00	0.01	2.01
25	3.09	0.00	0.52	0.64	1.22	2.39	0.01	0.01	2.37
26	3.09	0.00	0.88	0.64	1.28	2.80	0.01	0.01	2.78
27	3.09	0.00	1.01	0.72	0.95	2.68	0.01	0.01	2.65
28	3.09	0.00	1.07	0.40	1.25	2.71	0.01	0.00	2.70
29	3.09	0.26	1.07	0.34	1.02	2.69	0.02	0.00	2.67
30	3.09	0.63	0.61	0.36	1.07	2.67	0.01	0.01	2.65
31	3.09	0.64	0.54	0.37	1.09	2.65	0.01	0.01	2.64
Total	61.52	1.53	17.28	4.09	30.58	53.48	0.12	0.29	53.07

1 Total inflow into the equalization basin

2 Total inflow into the recharge cells (1-4)

3 Calculated for the equalization basin and Recharge Cells 1-3 using the Cooley Method with "Maximum Curve" (1970).

4 Calculated for Recharge Cell 4 using AZMET (Marana Station) data

APPENDIX B

ARIZONA DEPARTMENT OF WATER RESOURCES
HYDROLOGY DIVISION

TECHNICAL BULLETIN

Justification for using the Cooley Method Maximum Curve as the standard method for calculating evaporation losses at open-air underground storage facilities.

The Hydrology Division recommends using the Cooley Method with the Maximum Curve when calculating evaporative losses for spreading basins. This recommendation was derived for the following reasons:

- The Cooley Method is very consistent, in that, the daily evaporation rates and adjustment factors are fixed and do not change over time. This allows for a very simplified calculation method that is identical from year to year.

- The Cooley method is easy to use and can be adopted by a wide range of permittees and facilities. Especially as it relates to the collecting, reporting, and reviewing of the data and calculations. This has proven to be a benefit for new facility operators and changes in personnel at the Department. This is an important factor to consider when taking into account a duration of twenty years or longer for some facilities.

- The consistency of the Cooley Method makes it easy for the Department to review and verify calculation parameters when reviewing a new application and/or determining long term storage credits.

- The Cooley Method can be used without the Department demanding extraneous monitoring cost. The information required such as, wet/dry status of the basin(s) and the volume of water discharged are currently required in the USF permit for credit calculations and infiltration calculations.

- The Cooley Method unlike other empirical methods was designed specifically for Arizona.

- Other methods of determining evaporation can be very accurate, however, they are relatively expensive, requiring intensive measurements and calculation efforts to obtain evaporation values. In Hydrology's experience the difference between these methods and Cooley is negligible. This is especially true given the relatively small ratio of evaporation to the total amount of water recharged.

- The daily evaporation rates and adjustment factors, determined by Cooley, are used by the Arizona Department of Environmental Quality (ADEQ Engineering Bulletin No. 12). Thus having consistency between state agencies.

Justification for Using the Maximum Curve of the Cooley Method

- Using the maximum evaporation rate calculates evaporative loss less than the Class A pan evaporation data and greater than the normal evaporation curve. This produces a value that assures that all losses have been accounted for when calculating annual storage credits but is not over conservative.

- Class A pan data was one of the three sources used in preparing the Cooley Method. The corrections used in Class A pan calculations were calibrated to open water surfaces, considerably deeper than the average spreading basin. These deep open water bodies contain cooler water upwelling toward the surface causing a decrease in the evaporation rate. The spreading basins used in current recharge operations typically contain very shallow water (2 to 3 feet) that heats up fairly rapidly, thus increasing evaporative losses. Therefore, using the evaporation values calibrated for open water conditions would underestimate the evaporative losses in a spreading basin. The maximum evaporation rate more accurately estimates the evaporative losses for the conditions present at shallow recharge basins.

- Evaporation caused by the "wicking effect" may continue during dry cycles even when the basin does not contain standing water. The "wicking effect" process consists of water moving upward toward the surface due to the drying and heating of the ground above. This factor is not taken into account when using the normal values of evaporation, but is compensated for when using the maximum evaporation rate in calculations.

Attachments:
Evaporation from Open Water Surfaces in Arizona, K.R. Cooley, 1970

EVAPORATION FROM OPEN WATER SURFACES IN ARIZONA

Keith R. Cooley
Research Hydrologist
U. S. Water Conservation Laboratory, Soil and Water Conservation Research Division, Agricultural Research Service, U. S. Department of Agriculture.

Most people know that a considerable amount of water is lost by evaporation from open water surfaces in Arizona. However, they are amazed that, from a stock tank containing water 7 feet deep, the loss to evaporation in a year's time could be as much as 6 feet, leaving only one foot for livestock. On the other hand, declines in water level of 3 or 4 inches per day from fish ponds and swimming pools cannot be due entirely to evaporation.

Using the method outlined in this folder, the home owner, farmer, rancher, contractor, or consultant can estimate the amount of evaporation expected from an open, unshaded water surface during any part of the year and for any location in Arizona. Results will generally be within 10 percent of actual evaporation on an annual basis.

How to Estimate Evaporation

Estimation of evaporation consists of three steps.

1. Select the average daily or average monthly evaporation for the period in question from Figure 1. For daily evaporation, choose one of the three curves, depending on whether you want maximum, normal, or minimum expected evaporation.

Values of average normal evaporation are shown in the bar graph as inches per month.

Use the curve representing normal evaporation for an estimate of expected evaporation under average conditions. However, for extremely hot windy periods, or cool cloudy periods, the curves representing maximum and minimum evaporation, respectively, will give a better estimate. The curves of maximum and minimum evaporation may also be of value when considering the possible range of seepage losses from water storage facilities.

2. Determine an adjustment factor from Figure 2 for the location in question. Read from the map the factor nearest the location in which you are interested.

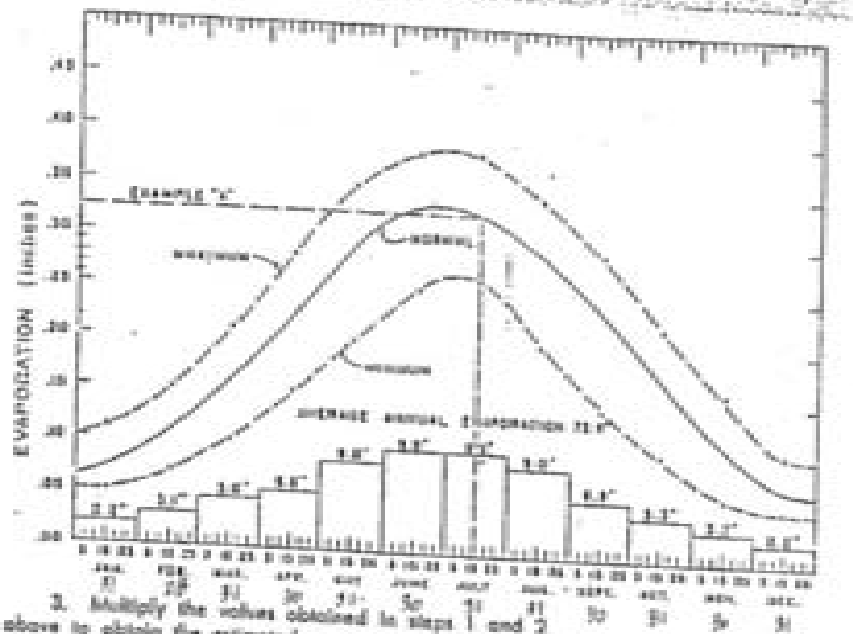


FIGURE 1. Maximum, Normal, and Minimum Daily Evaporation and Average Monthly Evaporation From Open Water Surfaces (Adjustment Factor = 1.00).

3. Multiply the values obtained in steps 1 and 2 above to obtain the estimated evaporation for the time and location in question.

For facilities with exposed walls, such as above-ground stock tanks and exposed-wall swimming pools, multiply the value obtained in step 2 above by 1.25, which is an average coefficient for the entire state for all types of exposed-wall structures.

Examples:

A. Wanted: Average daily normal evaporation from a swimming pool in Tucson during July.
   - Step 1. From Figure 1, average evaporation for July = 6.32 inches/day.
   - Step 2. From Figure 2, adjustment factor = 0.95.
   - Step 3. Multiply values obtained in steps 1 and 2 above: 6.32 x 0.95 = 6.0 inches/day = average daily evaporation during July in Tucson.

B. Wanted: Average normal evaporation from a fish pond in Phoenix during May and June.
   - Step 1. From Figure 1, average evaporation for May and June = 9.0 and 9.9 inches, respectively.
   - Step 2. Adjustment factor from Figure 2 for Phoenix = 1.0.

(See over)

FIGURE 2. Evaporation Adjustment Factors for Arizona

Step 3. Multiply values obtained in steps 1 and 2 above: (9.0 x 1.0) + (9.9 x 1.0) = 18.9 or approximately 19 inches = total average evaporation for May and June.

C. Wanted: Maximum evaporation to be expected from a stock pond near Snowflake during May, June, and July.

Step 1. From the curve of maximum values in Figure 1, values for May, June, and July are: 0.35, 0.38, and 0.38 inches/day, respectively.

Step 2. From Figure 2, adjustment factor for Snowflake = 0.85.

Step 3. Multiply values obtained in steps 1 and 2 above times the number of days in each month.

May:	0.33 x 31 x 0.8 =	8.7
June:	0.38 x 30 x 0.8 =	9.1
July:	0.38 x 31 x 0.8 =	9.4
Totals		27.2 inches

Maximum evaporation expected from a stock pond near Snowflake during May, June, and July is approximately 27 inches.

D. Wanted: Average normal evaporation from an exposed-wall swimming pool near Yuma during June.

Step 1. From Figure 1, average evaporation for June is 9.9 inches.

Step 2. From Figure 2, adjustment factor for Yuma = 1.10.

Step 3. Multiply values obtained in steps 1 and 2 above.
9.9 x 1.10 = 10.9 inches.

Step 4. Multiply by the coefficient for exposed-wall storage facilities, 1.25.
10.9 x 1.25 = 13.6 inches = average evaporation from an exposed-wall swimming pool at Yuma during June.

Acknowledgement

Data used in preparing this paper were obtained from three sources: (1) records of evaporation from sunken insulated evaporation pans at the U. S. Water Conservation Laboratory near Phoenix, Arizona, for the years 1966-1968, (2) records of evaporation from a Class A evaporation pan at the University of Arizona Mesa Experiment Farm for the years 1957-1967, and (3) evaporation maps of the United States based on 1946-1955 data.

Special acknowledgement is made to Mr. Paul C. Kangieser, U. S. Weather Bureau Climatologist, for supplying records of evaporation recorded at the Mesa Experiment Farm.

This publication is issued by the Cooperative Extension Service and the Agricultural Experiment Station of The University of Arizona. See your local County Extension Agent for additional information.

EVAPORATION FROM OPEN WATER SURFACES IN ARIZONA

BULLETIN 153

Agricultural Experiment Station

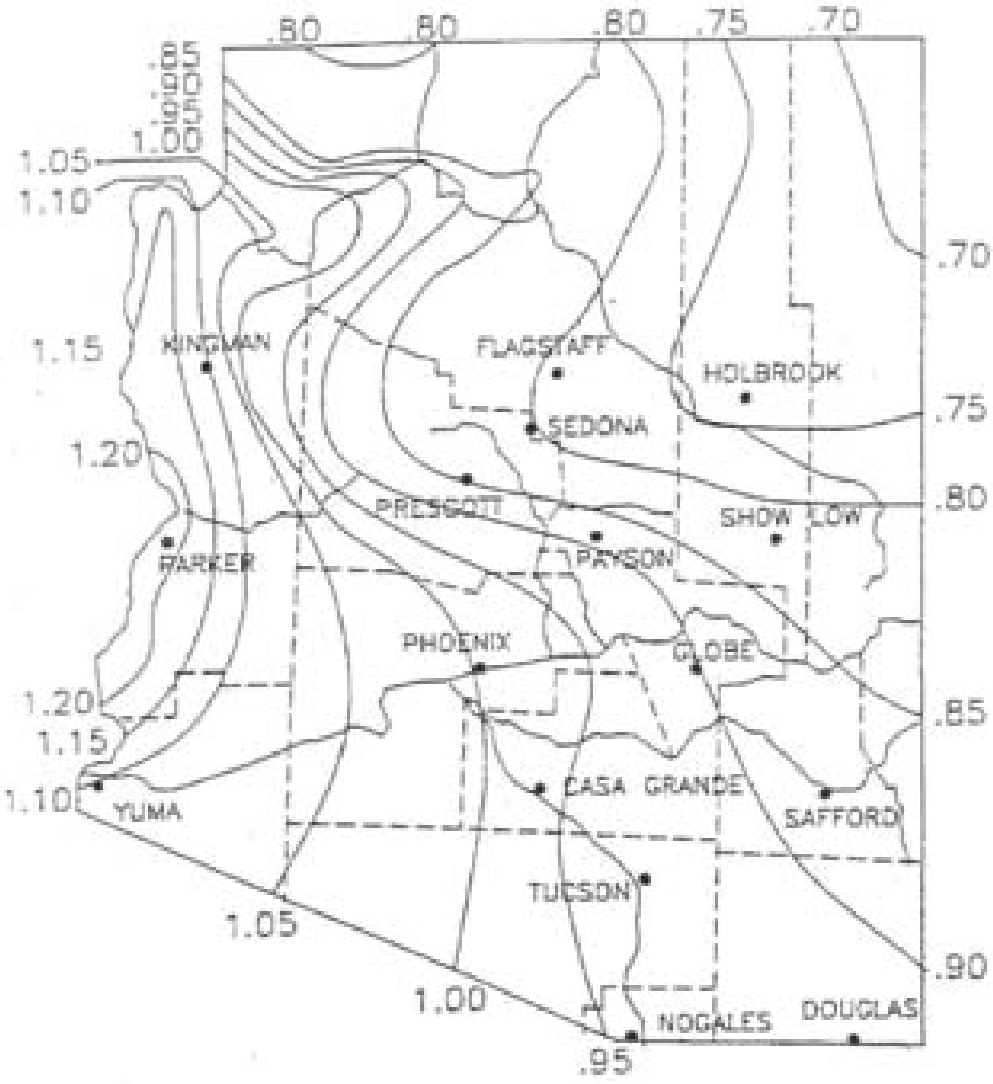
And

Cooperative Extension Service

The University of Arizona

Issued in furtherance of cooperative extension work in agriculture and home economics, Acts of May 8 and June 30, 1914, in cooperation with the U. S. Department of Agriculture. George E. Hull, Director of Extension Service, The University of Arizona College of Agriculture, Tucson,

FIGURE 10. EVAPORATION ADJUSTMENT FACTORS FOR ARIZONA



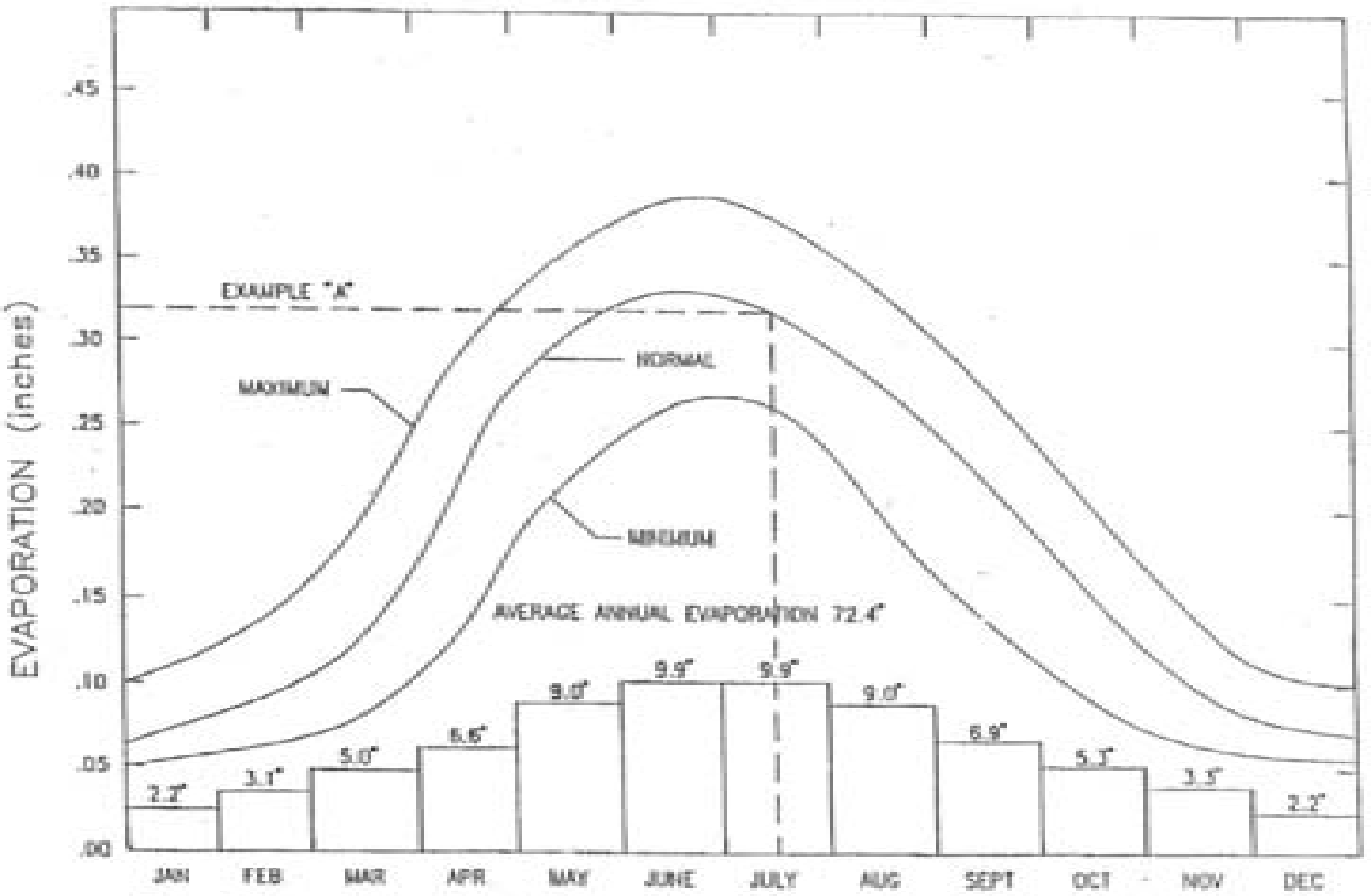


FIGURE 9. MAXIMUM, NORMAL AND MINIMUM DAILY EVAPORATION AND AVERAGE MONTHLY EVAPORATION FROM OPEN WATER SURFACES (Adjustment Factor = 1.00)

TABLE 3.2 MONTHLY MAXIMUM, NORMAL, AND MINIMUM OPEN WATER EVAPORATION AMOUNTS FOR ARIZONA (UNADJUSTED).

	EVAPORATION (IN)		
MONTH	MAXIMUM	NORMAL	MINIMUM
Jan (31 days)	3.6	2.2	1.6
Feb (28)	4.5	3.1	2.3
Mar (31)	6.5	5.0	3.1
April (30)	8.4	6.6	4.5
May (31)	10.9	9.0	6.2
June (30)	11.4	9.9	7.5
July (31)	11.8	9.9	8.1
August (31)	10.5	9.0	6.0
Sept (30)	8.7	6.9	4.1
Oct (31)	7.0	5.3	2.8
Nov (30)	4.8	3.3	1.8
Dec (31)	3.1	2.2	1.6
TOTAL	91.2 (7.6 ft.)	72.4 (6.0 ft.)	49.6 (4.1 ft.)

From: Cooley, 1970

APPENDIX C

THE UNIVERSITY OF ARIZONA
Cooperative Extension

STANDARDIZED REFERENCE EVAPOTRANSPIRATION

A NEW PROCEDURE FOR ESTIMATING REFERENCE EVAPOTRANSPIRATION IN ARIZONA

Introduction

The Arizona Meteorological Network (AZMET) has provided daily values of reference evapotranspiration (ETo) for a number of southern Arizona locations for more than 15 years. ETo is a computed meteorological parameter that provides an estimate of environmental evaporative demand and serves as a critical input variable for most scientifically based irrigation scheduling systems. ETo is also used to estimate evaporation from water bodies and evapotranspiration (ET) from rain-fed ecosystems.

While there is general agreement among agronomists, irrigation engineers and meteorologists that ETo is a useful environmental parameter, there has been less agreement on how to compute ETo. And all too often the computational procedure for ETo varies from region to region and sometimes within a region. Use of multiple ETo computation procedures within a region can generate biases in ETo that result from the computation process, not any true differences in environmental evaporative demand. Figure 1 provides graphic evidence of this computational bias by presenting the total ETo for Tucson in 1996 as computed using the published ETo procedures for the public weather networks operating in Arizona (Brown, 1998), California (Snyder and Pruitt, 1985), and New Mexico (Sammis, 1996). It is important to note that the same meteorological data were used to generate the ETo data in Figure 1; only the computational procedures differed. These results provide clear evidence that lack of a standardized computational procedure for ETo can lead to confusion and perhaps serious mistakes when one is involved in activities such as irrigation scheduling, estimating consumptive use of vegetation, water rights litigation (especially across state lines), and development of crop coefficients (adjustment factors that convert ETo to crop ET).

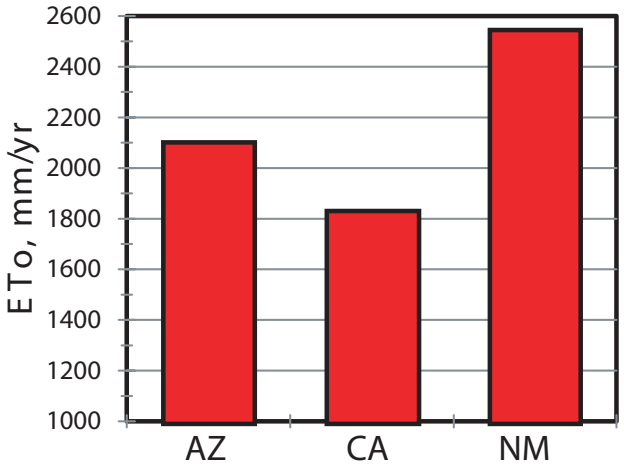


Figure 1. Reference ET (ETo) for Tucson for calendar year 1996 as computed using the published procedures for the public weather networks in Arizona, California, and New Mexico.

Over the past decade, scientists have recognized the problems and frustrations associated with non-standardized ETo computation and have formed national and international committees to address this issue. The American Society of Civil Engineers (ASCE) developed

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This information has been reviewed by university faculty.

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a special Task Committee (TC) in 1999 to develop a standardized procedure for computing ETo. The ASCE TC has issued its recommendations (Walter et al., 2004) which are to be published in 2005. AZMET participated in the ASCE TC and began generating ETo values using this ASCE Standardized ETo procedure in 2003. The purpose of this report is to first review the computation procedure recommended by the ASCE TC; second, provide specifics on the computation procedure AZMET will employ; and third, summarize how the new standardized ETo procedure and the original AZMET ETo (ETo*a*) procedure compare across months and locations.

Standardized Reference Evapotranspiration Definition

The ASCE TC defined reference evapotranspiration as "the ET rate from a uniform surface of dense actively growing vegetation having specified height and surface resistance (to transfer of water vapor), not short of soil water, and representing an expanse of at least 100 m of the same or similar vegetation." This definition leaves open the option of having more than one reference surface (differing height and surface resistance) and reflects the view of the TC that standardized computation procedures were necessary for two reference surfaces: 1) a short crop similar to clipped grass and 2) a tall crop similar to full-cover alfalfa. The recommended abbreviations for ETo computed for the short and tall crops using the standardized procedures are ETos and ETrs, respectively (see Table 1 for list of ET abbreviations used in this report).

The need to have procedures for two reference surfaces reflects the history of ET research in the U.S. Two crops — cool-season grass and alfalfa — have been used as reference surfaces for ET estimation for several decades. The TC recommendations allow users with a strong preference for one reference surface or another to continue using their preferred surface. An important reason for recommending two surfaces pertains to crop coefficients (Kcs) — the adjustment factors used to convert ETo to estimates of ET for a specific type of vegetation. Kcs will differ for the two reference surfaces since alfalfa typically uses more water than grass when both are grown under reference conditions. Over the past 30+ years, Kcs have been developed for use with ETo computed for both grass and alfalfa reference surfaces. The TC recommendation to allow for two reference surfaces allows local users to continue using the Kcs and reference surface they are most comfortable with.

ABBREVIATION	EXPLANATION
ET	Evapotranspiration
ETc	Evapotranspiration of a particular crop or vegetation type
ETo	Reference Evapotranspiration in general
ETos	Standardized Reference Evapotranspiration for Short Reference Crop
ETrs	Standardized Reference Evapotranspiration for Tall Reference Crop
ETsz	Standardized Reference Evapotranspiration in general
ETo*a*	Reference Evapotranspiration as computed by AZMET in past years

Table 1. Abbreviations related to evapotranspiration that are contained in this report.

Standardized Reference ET Equation

Generalized Form of Standardized Equation

The ASCE TC standardized procedure for computing reference evapotranspiration is based on the Penman-Monteith Equation and more specifically on simplifying the version of the Penman Monteith Equation recommended by ASCE (Jensen et al., 1990). The recommended general computation procedure is provided below:

$$ETsz = \frac{0.408\Delta(R_n - G) + \gamma \dfrac{C_n}{T + 273} u_2(e_s - e_a)}{\Delta + \gamma\,(1 + C_d u_2)} \quad (1)$$

Where:

ETsz = standardized reference crop evapotranspiration (mm d^{-1} or mm h^{-1})

Δ = slope of the saturation vapor pressure-temperature curve (kPa $^oC^{-1}$)

R_n = Calculated net radiation at the crop surface (MJ m^{-2} d^{-1} or MJ m^{-2} h^{-1})

G = Soil heat flux density at the soil surface (MJ m^{-2} d^{-1} or MJ m^{-2} h^{-1})

γ = psychrometer constant (kPa $^{o}C^{-1}$)

C_n = numerator constant that changes with reference type and calculation time step

T = mean daily air temperature measured at 1.5 to 2.5 m above ground level (^{o}C)

U_2 = mean daily wind speed wind speed measured at 2 m above ground level (m s^{-1})

e_s = saturation vapor pressure measured at 1.5 to 2.5 m above ground level (kPa)

e_a = mean actual vapor pressure measured at 1.5 to 2.5 m above ground level (kPa)

C_d = denominator constant that changes with reference type and calculation time step

Equation 1 represents a generalized equation that can, with appropriate use of constants, handle different reference surfaces; different computational time steps; and slight variation in the measurement height of certain meteorological measurements. Note that standardized reference ET when described in this generalized form is given the abbreviation ETsz.

Standardized Equation To Be Used By AZMET

AZMET will utilize the standardized procedure for a short reference crop computed using a daily computational time step. The appropriate equation for this version of the standardized procedure is provided below:

$$ETos = \frac{0.408\Delta R_n + \gamma \dfrac{900}{T+273} u_2 (e_s - e_a)}{\Delta + \gamma (1 + 0.34 u_2)} \qquad (2)$$

Where:

ETos = standardized reference crop evapotranspiration for a short crop in mm d^{-1}

Δ = slope of the saturation vapor pressure-temperature curve (kPa $^{o}C^{-1}$)

R_n = Calculated net radiation at the crop surface in MJ m^{-2} d^{-1}

γ = psychrometer constant (kPa $^{o}C^{-1}$)

T = mean daily air temperature measured at 1.5 m above ground level (^{o}C)

u_2 = mean daily wind speed measured at 2 m above ground level (m s^{-1})

e_s = saturation vapor pressure measured at 1.5 m above ground level (kPa)

e_a = mean actual vapor pressure measured at 1.5 m above ground level (kPa)

A comparison of Eqs. 1 and 2 reveal some significant differences. One notable difference is the change in abbreviation for reference ET. The ASCE task force recommended using the abbreviation ETos for short crop standardized reference ET. Another important difference among the two equations is that the numerator and denominator constants in Eq. 1 are set equal to 900 and 0.34, respectively which represent the appropriate constants for the short reference crop and daily computational time step. Finally, one will notice that Eq. 2 no longer contains the soil heat flux variable (G in Eq. 1). Soil heat flux is typically very small over a period of 24 hours (heat that flows into soil in day is lost back to the surface at night) and thus is set equal to zero in the standardized equation when the daily computation time step is used.

The reason AZMET chose to use reference ET computed for a short reference crop is to provide continuity with past AZMET ETo data. AZMET has used a 0.08-0.15 m tall cool season grass as its ET reference surface since the inception of the network in 1987.

The time step for ETsz computation was another factor addressed by the ASCE TC. Time step refers to the time interval over which the ETsz computation is made. The TC recommended standardized procedures for two computational time steps — hourly and daily. The daily computational time step has been used for many decades, in part because most older meteorological data sets consisted of daily summaries. The advent of automated weather stations in the late 1970s led to an increase in the number of hourly data sets that could be used to compute ETo. Past research suggests the ETo computation is more accurate when the computation time step is hourly as opposed to daily or longer (Tanner and Pelton, 1960, Van Bavel, 1966), particularly in regions where meteorological conditions vary in an asymmetric manner each day (e.g., coastal locations with fog or sea breeze; certain mountain areas subject to sudden changes in wind or cloudiness each day). One of the objectives of the TC was to recommend a standardized procedure where the computational time step did not greatly impact the resulting ETsz value. The TC did conduct an evaluation of the impact of time step on the resulting ETsz value (Itenfisu et al., 2000). The evaluation found that ETsz computed using the hourly and daily time step was generally within 2% across a large number of locations (including Arizona).

AZMET chose to use the daily time step computation model for the following reasons: 1) meteorological conditions in Arizona do not generally exhibit serious asymmetric tendencies over the course of a day; 2) daily

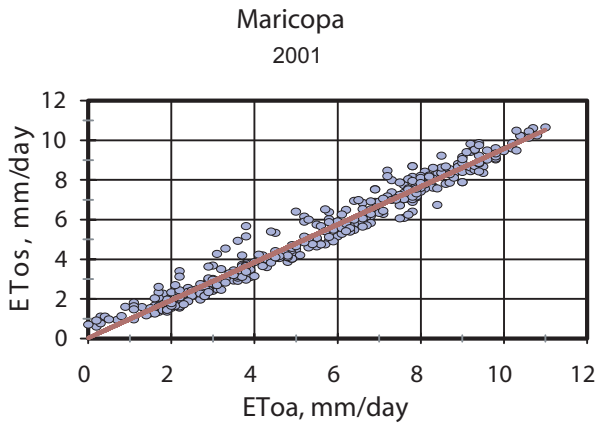

Figure 2. Reference evapotranspiration as computed using the ASCE standardized procedure (ETos) versus reference evapotranspiration computed using procedure employed by AZMET. The line represents the least squares regression line (ETos = 0.03 + 0.95 x ETOa; $r^2 = 0.96$).

meteorological data are easier to estimate than hourly data when data are missing due to instrument failure or station maintenance; and 3) AZMET questions the accuracy of nighttime net radiation (R_n)estimates required to estimate ETos on an hourly timescale.

Data Required To Compute ETos

Both meteorological and non-meteorological data are required for the computation of ETos. The required meteorological data include: 1) daily solar radiation (MJ m^{-2} d^{-1}), 2) mean daily vapor pressure (kPa), 3) mean daily wind speed (m s^{-1}), and 4) maximum and minimum air temperature for the day (^oC). All of the required meteorological data are collected by AZMET weather stations. Required non-meteorological data consist of elevation above sea level and latitude for the locations providing the meteorological data (AZMET weather station locations).

The meteorological data required for computation of ETos must be converted into the specific variables required in Eq. 2. Multiple procedures are available for making these required conversions. The ASCE TC reviewed many of the recommended conversion procedures and made recommendations on the best procedures to use based on the kind and quality of available meteorological data. The specific procedures and/or equations employed by AZMET to generate these required variables are presented in the Appendix to this report

Comparison of Standardized Reference ET with Original AZMET ETo

A logical question for users of ETo data would be how does the new standardized procedure (ETos) compare with the original AZMET ETo (ETOa) data. To answer this question, AZMET computed daily ETos for the period 1 January 1998 through 31 December 2001 (4 years), then compared the monthly, seasonal, and annual totals of ETos against similar totals of ETOa for locations presently served by AZMET weather stations.

ETos and ETOa were highly correlated across all locations served by AZMET. The data presented in Figure 2 are representative of the general relationship between ETos and ETOa. While ETos and ETOa are highly correlated, values of ETos generally run lower than ETOa. This lower bias of ETos is clearly evident in Tables 2 and 3 that present monthly, seasonal, and annual totals of ETos and ETOa for all locations presently served by AZMET weather stations. Also included in Tables 2 and 3 are ratios of ETos to ETOa for the various time scales.

Annual totals of ETos were 3-17% lower than similar totals of ETOa depending on location (Table 3). The lowest ratios of ETos to ETOa occur where wind flow is generally low (e.g., Waddell, Phoenix Encanto, and Phoenix Greenway). The highest ratios occur at locations exhibiting fairly high wind speeds (e.g., Marana, Parker).

The monthly and seasonal ratios presented in Tables 2 and 3 reveal that the lower bias of ETos (relative to ETOa) is not constant over time. Higher ratios typically occur during windy months and months with higher dew point temperatures (e.g., summer monsoon months). Lower ratios commonly occur when dew point and wind flow are low.

Converting Past ETOa to ETos

Long time users of AZMET data may have databases and spreadsheets that contain values of ETOa generated in past years. Users interested in converting ETOa data into reliable estimates of ETos may use the ratios presented in Tables 2 & 3. The simple conversion process uses the following equation:

$$ETos = Ratio * ETOa \quad (3)$$

Table 2. Mean monthly values of reference evapotranspiration for all AZMET station sites for the period 1998-2001 computed using the ASCE standardized (ETos) and original AZMET (EToa) computation procedures. Monthly ratios of ETos to EToa are provided in columns labeled "Ratio."

LOCATION	JANUARY			FEBRUARY			MARCH			APRIL			MAY			JUNE		
	ETos (mm)	ETos (mm)	Ratio	ETos (mm)	ETos (mm)	Ratio	ETos (mm)	ETos (mm)	Ratio	ETos (mm)	ETos (mm)	Ratio	ETos (mm)	ETos (mm)	Ratio	ETos (mm)	ETos (mm)	Ratio
Aguila	72.6	80.5	0.90	77.8	90.1	0.86	125.4	147.2	0.85	171.1	198.5	0.86	241.6	273.0	0.89	261.4	289.3	0.90
Buckeye	74.3	83.8	0.89	84.7	96.1	0.88	134.0	151.7	0.88	180.2	207.0	0.87	240.5	270.0	0.89	251.0	276.2	0.91
Bonita	69.8	79.0	0.88	82.8	94.2	0.88	126.3	146.6	0.86	167.5	197.2	0.85	222.8	256.6	0.87	228.1	247.6	0.92
Coolidge	73.5	78.4	0.94	82.2	90.4	0.91	124.6	140.4	0.89	174.5	197.5	0.88	247.4	269.4	0.92	253.7	271.7	0.93
Eloy	69.4	77.1	0.90	81.1	91.3	0.89	125.7	146.0	0.86	173.5	204.2	0.85	241.6	274.7	0.88	254.0	277.5	0.92
Harquahala	65.7	76.6	0.86	73.9	87.7	0.84	124.5	148.0	0.84	166.8	198.2	0.84	220.9	253.1	0.87	246.7	272.4	0.91
Litchfield Pk.	66.8	75.7	0.88	77.5	88.4	0.88	126.1	144.3	0.87	173.5	202.5	0.86	238.7	270.1	0.88	263.1	287.7	0.91
Maricopa	63.3	72.5	0.87	80.0	89.7	0.89	126.0	143.6	0.88	175.0	199.1	0.88	244.0	267.5	0.91	261.3	280.4	0.93
Marana	90.2	89.5	1.01	98.9	102.2	0.97	144.9	157.5	0.92	184.2	206.2	0.89	251.8	274.1	0.92	264.6	277.3	0.95
Mohave Val.	80.7	87.0	0.93	87.3	94.6	0.92	145.8	164.6	0.89	191.8	214.9	0.89	257.8	278.6	0.93	257.4	275.2	0.94
Paloma	72.9	79.6	0.92	84.8	94.9	0.89	131.1	149.5	0.88	173.5	200.0	0.87	234.4	259.8	0.90	255.8	276.2	0.93
Parker	72.5	78.4	0.93	80.9	90.1	0.90	134.7	153.2	0.88	192.1	211.4	0.91	263.8	280.9	0.94	281.5	288.9	0.97
Phoenix Encanto	54.5	65.6	0.83	67.5	80.7	0.84	111.8	133.6	0.84	153.6	185.3	0.83	209.9	247.0	0.85	228.2	262.3	0.87
Phoenix Greenway	51.1	69.8	0.73	65.4	83.5	0.78	108.6	134.3	0.81	149.7	182.8	0.82	205.3	245.3	0.84	226.0	261.4	0.86
Queen Ck.	61.7	66.0	0.93	74.8	81.9	0.91	117.9	131.0	0.90	159.9	182.3	0.88	214.9	240.3	0.89	227.0	249.1	0.91
Roll	64.5	80.5	0.80	76.9	92.4	0.83	128.4	153.6	0.84	174.8	204.8	0.85	222.5	251.6	0.88	234.2	258.4	0.91
Safford	74.8	80.8	0.93	92.4	100.8	0.92	139.4	156.8	0.89	187.0	211.8	0.88	250.8	274.1	0.92	252.7	264.5	0.96
Tucson	68.6	80.8	0.85	82.4	94.6	0.87	128.0	151.2	0.85	166.3	196.0	0.85	224.3	258.1	0.87	235.4	258.3	0.91
Waddell	54.0	76.2	0.71	67.3	86.2	0.78	111.4	136.8	0.81	156.1	192.3	0.81	217.8	262.6	0.83	236.4	276.2	0.86
Yuma Mesa	69.7	85.2	0.82	80.2	95.8	0.84	129.4	155.0	0.83	168.7	199.6	0.85	217.6	247.7	0.88	238.8	261.8	0.91
Yuma N. Gila	71.6	84.2	0.85	80.2	94.3	0.85	127.5	151.3	0.84	170.2	199.0	0.86	211.8	239.7	0.88	229.0	251.2	0.91
Yuma Valley	83.9	94.5	0.89	90.5	103.3	0.88	135.1	158.7	0.85	181.3	207.9	0.87	230.5	254.1	0.91	259.3	278.5	0.93

Table 2 continued. Mean monthly values of reference evapotranspiration for all AZMET station sites for the period 1998-2001 computed using the ASCE standardized (ETos) and original AZMET (EToa) computation procedures. Monthly ratios of ETos to EToa are provided in columns labeled "Ratio."

LOCATION	JULY			AUGUST			SEPTEMBER			OCTOBER			NOVEMBER			DECEMBER		
	ETos (mm)	ETos (mm)	Ratio	ETos (mm)	ETos (mm)	Ratio	ETos (mm)	ETos (mm)	Ratio	ETos (mm)	ETos (mm)	Ratio	ETos (mm)	ETos (mm)	Ratio	ETos (mm)	ETos (mm)	Ratio
Aguila	249.1	259.6	0.96	218.3	222.3	0.98	184.0	199.0	0.92	138.3	153.7	0.90	90.5	100.6	0.90	75.5	82.3	0.92
Buckeye	236.8	245.5	0.96	225.3	226.9	0.99	188.6	200.6	0.94	137.9	153.6	0.90	86.3	97.8	0.88	70.9	79.3	0.89
Bonita	192.3	194.1	0.99	179.3	185.2	0.97	166.7	180.4	0.92	125.9	140.8	0.89	82.3	94.2	0.87	66.3	77.1	0.86
Coolidge	217.7	219.4	0.99	198.3	200.8	0.99	166.0	172.9	0.96	128.0	138.5	0.92	83.5	89.2	0.94	71.9	75.4	0.95
Eloy	236.1	237.6	0.99	219.0	221.7	0.99	177.3	192.1	0.92	130.3	147.1	0.89	78.5	93.6	0.84	65.3	73.0	0.89
Harquahala	249.6	260.8	0.96	231.2	234.9	0.98	182.7	199.1	0.92	127.6	148.5	0.86	77.7	93.4	0.83	68.6	78.6	0.87
Litchfield Pk.	246.8	257.5	0.96	219.2	228.3	0.96	172.5	192.0	0.90	121.4	138.1	0.88	74.7	86.8	0.86	60.9	69.0	0.88
Maricopa	247.6	249.7	0.99	223.6	225.1	0.99	182.8	192.9	0.95	128.1	141.9	0.90	73.6	84.4	0.87	58.9	66.1	0.89
Marana	220.2	216.1	1.02	209.6	204.4	1.03	193.4	194.1	1.00	152.9	155.2	0.99	107.9	107.5	1.00	82.6	83.7	0.99
Mohave Val.	233.5	244.3	0.96	211.0	217.2	0.97	169.0	184.8	0.91	131.0	144.1	0.91	89.0	97.6	0.91	91.8	99.8	0.92
Paloma	241.4	247.8	0.97	213.4	213.9	1.00	174.4	183.4	0.95	129.5	142.7	0.91	81.4	90.8	0.90	69.4	72.9	0.95
Parker	276.1	275.7	1.00	224.0	224.4	1.00	194.2	202.2	0.96	144.8	156.7	0.92	88.4	97.7	0.90	75.3	82.2	0.92
Phoenix Encato	223.8	243.3	0.92	207.0	222.7	0.93	161.3	185.7	0.87	108.7	131.2	0.83	63.3	79.8	0.79	49.9	61.7	0.81
Phoenix Greenway	221.2	240.3	0.92	206.2	222.1	0.93	158.1	185.7	0.85	106.8	137.0	0.78	60.3	85.6	0.70	47.0	66.4	0.71
Queen Ck.	219.7	222.5	0.99	205.8	207.9	0.99	169.2	179.5	0.94	117.9	131.1	0.90	72.5	82.2	0.88	57.3	63.2	0.91
Roll	234.1	246.0	0.95	222.2	230.5	0.96	180.8	193.5	0.93	129.9	143.3	0.91	74.8	84.3	0.89	63.8	77.5	0.82
Safford	205.5	203.4	1.01	178.2	177.7	1.00	161.8	170.0	0.95	125.7	136.0	0.92	80.3	88.5	0.91	68.9	72.4	0.95
Tucson	201.1	205.2	0.98	192.1	197.9	0.97	168.8	183.8	0.92	123.6	143.1	0.86	77.6	92.0	0.84	64.1	77.3	0.83
Waddell	225.6	250.7	0.90	199.0	220.2	0.90	156.2	188.8	0.83	107.5	140.2	0.77	61.9	88.8	0.70	48.8	71.0	0.69
Yuma Mesa	241.0	252.4	0.95	217.6	224.6	0.97	174.9	191.3	0.91	129.3	150.2	0.86	83.4	98.5	0.85	75.1	90.5	0.83
Yuma N. Gila	249.3	254.1	0.98	233.6	233.6	1.00	182.9	193.5	0.95	133.6	148.3	0.90	82.7	92.8	0.89	74.6	85.5	0.87
Yuma Valley	266.8	276.3	0.97	240.2	241.8	0.99	203.7	212.8	0.96	148.8	162.9	0.91	96.1	104.1	0.92	89.0	97.9	0.91

Table 3. Seasonal and annual means of reference evapotranspiration for all active AZMET monitoring sites for the period 1998-2001 as computed using the ASCE standardized (ETos) and original AZMET (ETos) procedures. Ratios of ETos to ETos are provided in columns labeled "Ratio."

LOCATION	WINTER (Dec. - Feb.)			SPRING (Mar. - May)			SUMMER (Jun. - Aug.)			FALL (Sep. - Nov.)			ANNUAL		
	ETos (mm)	ETos (mm)	Ratio	ETos (mm)	ETos (mm)	Ratio	ETos (mm)	ETos (mm)	Ratio	ETos (mm)	ETos (mm)	Ratio	ETos (mm)	ETos (mm)	Ratio
Aguila	225.9	252.9	0.89	538.1	618.7	0.87	728.8	771.2	0.94	412.8	453.3	0.91	1905.7	2095.9	0.91
Buckeye	229.9	259.2	0.89	554.7	628.7	0.88	713.1	748.6	0.95	412.8	452.0	0.91	1910.5	2088.2	0.91
Bonita	218.9	250.3	0.87	516.6	600.4	0.86	599.7	626.9	0.96	374.9	415.4	0.90	1710.2	1892.9	0.90
Coolidge	227.6	244.2	0.93	546.5	607.3	0.90	669.7	691.9	0.97	377.5	400.6	0.94	1821.3	1944.0	0.94
Eloy	215.8	241.4	0.89	540.8	626.4	0.86	709.1	735.3	0.96	386.1	432.8	0.89	1851.9	2035.7	0.91
Harquahala	208.2	242.9	0.86	512.2	599.3	0.85	727.5	768.1	0.95	388.0	441.0	0.88	1835.9	2051.2	0.90
Litchfield Pk.	205.2	233.1	0.88	538.3	616.9	0.87	729.1	773.5	0.94	368.6	416.9	0.88	1841.3	2040.4	0.90
Maricopa	202.2	228.3	0.89	545.0	610.2	0.89	732.5	755.2	0.97	384.5	419.2	0.92	1864.2	2012.8	0.93
Marana	271.7	275.4	0.99	580.9	637.8	0.91	694.4	697.8	1.00	454.2	456.8	0.99	2001.2	2067.6	0.97
Mohave Val.	259.8	281.4	0.92	595.4	658.1	0.90	701.9	736.7	0.95	389.0	426.5	0.91	1946.2	2102.4	0.93
Paloma	227.1	247.4	0.92	539.0	609.3	0.88	710.6	737.9	0.96	385.3	416.9	0.92	1862.0	2011.3	0.93
Parker	228.7	250.7	0.91	590.6	645.5	0.91	781.6	789.0	0.99	427.4	456.6	0.94	2028.4	2141.6	0.95
Phoenix Encanto	171.9	208.0	0.83	475.3	565.9	0.84	659.0	728.3	0.90	333.3	396.7	0.84	1639.6	1898.7	0.86
Phoenix Greenway	163.5	219.7	0.74	463.6	562.4	0.82	653.4	723.8	0.90	325.2	408.3	0.80	1605.6	1914.1	0.84
Queen Ck.	193.8	211.1	0.92	492.7	553.6	0.89	652.5	679.5	0.96	359.6	392.8	0.92	1698.5	1836.7	0.92
Roll	205.2	250.4	0.82	525.7	610.0	0.86	690.5	734.9	0.94	385.5	421.1	0.92	1806.9	2016.3	0.90
Safford	236.1	254.0	0.93	577.2	642.7	0.90	636.4	645.6	0.99	367.8	394.5	0.93	1817.6	1936.6	0.94
Tucson	215.1	252.7	0.85	518.6	605.3	0.86	628.6	661.4	0.95	370.0	418.9	0.88	1732.2	1938.2	0.89
Waddell	170.1	233.4	0.73	485.3	591.7	0.82	661.0	747.1	0.88	325.6	417.8	0.78	1642.0	1989.7	0.83
Yuma Mesa	225.0	271.5	0.83	515.7	602.3	0.86	697.4	738.8	0.94	387.6	440.0	0.88	1825.7	2052.4	0.89
Yuma N. Gila	226.4	264.0	0.86	509.5	590.0	0.86	711.9	738.9	0.96	399.2	434.6	0.92	1847.0	2027.4	0.91
Yuma Valley	263.4	295.7	0.89	546.9	620.7	0.88	766.3	796.6	0.96	448.6	479.8	0.93	2025.2	2192.5	0.92

where **Ratio** represents the appropriate annual, seasonal or monthly ratio from Tables 2 and 3. Annual ratios should be used only to adjust annual totals of ETos. Monthly ratios provide the best means of converting short term data sets (e.g., daily, weekly or monthly totals of ETos). *Users wishing to obtain actual computed values of ETos for past years should contact AZMET. As part of the move to adopt ETos, AZMET will generate ETos for its entire database which extends back to 1987 at some locations.*

Crop Coefficients and ETos

Crop coefficients (Kcs) are used to convert ETo data into estimates of crop evapotranspiration (ETc). The simple conversion procedure is as follows:

$$ETc = Kc * ETo \quad (4)$$

It is important to note that Kcs need to be matched to the ETo procedure in order to obtain reliable estimates of ETc from Eq. 4. To help clarify this point, suppose one has a turf Kc of 0.75 that is appropriate for use with AZMET ETo (ETos). To obtain an estimate of turf water use in Tucson for May one would multiply the Kc (0.75) times the May ETos value for Tucson (258.1 mm from Table 2):

$$ETc = Kc * ETos$$

$$ETc = 0.75 * 258.1 \text{ mm}$$

$$ETc = 193.6 \text{ mm } (7.62'')$$

If, however, this same Kc is erroneously applied to values of ETos, the same May turf water use estimate in Tucson would be:

$$ETc = Kc * ETos$$

$$ETc = 0.75 * 224.3 \text{ mm}$$

$$ETc = 168.2 \text{ mm } (6.62'')$$

or 25.4 mm (1.0") less than the correct value. It is clear from this example that failure to match Kcs with ETo procedure can lead to significant errors when estimating water use from vegetation.

Very few Kcs have been validated for use with ETos in Arizona with the notable exception of turfgrass (Brown and Kopec, 2000). While a number of research studies are presently underway (University of Arizona and USDA-ARS) that should provide validated Kcs for a number of Arizona crops in the near future, individuals interested in applying Kcs to ETos must either use published Kcs developed in another location, or adjust existing AZMET Kcs. A good place to locate Kcs for use with ETos is the publication entitled *Crop Evapotranspiration: Guidelines for computing crop water requirements* which is listed in the Reference section of this report.

Adjusting AZMET Kcs is a simple process that requires the use of the ratio data in Tables 2 and 3:

$$Kc_{os} = Kc_{az} / \text{Ratio} \quad (5)$$

where Kc_{os} and Kc_{az} are the crop coefficient values appropriate for use with ETos and ETos, respectively; and **Ratio** is the ratio of ETos to ETos provided in Tables 2 and 3. In the previous example pertaining to turfgrass water use for Tucson in May, one would correct the Kc_{az} value of 0.75 by dividing by the May ratio presented in Table 2 (0.87):

$$Kc_{os} = 0.75 / 0.87 = 0.86$$

Seasonal ratios of ETos to ETos are provided in Table 3 to assist with adjusting Kc_{az} for row crops. For example, AZMET has recommended using a Kc of 1.12 for full cover cotton when using ETos. The process of adjusting this Kc for use with ETos at Maricopa would proceed as follows:

$$Kc_{os} = 1.12 / 0.97 = 1.15$$

The value of 0.97 is the summer ratio for Maricopa (see Table 3).

On a practical note it is important to recognize that existing Kc_{az} values will require only minor adjustments (if any) when used during the summer months. Larger adjustments will be required in winter where the ratios of ETos to ETos are generally much less than 1.0.

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Appendix

The procedures and equations used to compute the variables presented in Equation 2 are described in this Appendix. The variables are presented in the order they are encountered in Eq. 2.

Δ: Slope of Saturation Vapor Pressure vs. Temperature Relationship

The slope of the saturation vapor pressure versus temperature relationship, Δ (kPa $^{o}C^{-1}$), is computed using:

$$\Delta = 2503 \exp((17.27T)/(T + 237.3))/(T + 237.3)^2 \quad (A1)$$

where T is the mean temperature for the day (^{o}C).

Rn: Net Radiation

Net radiation is the net amount of radiant energy available at the surface for evaporating water. Rn includes both short and long wave radiation and is computed using:

$$Rn = Rns - Rnl \quad (A2)$$

where Rns = net shortwave radiation (MJ m^{-2} d^{-1}) defined as positive in the downward direction (toward earth) and Rnl = net longwave radiation (MJ m^{-2} d^{-1}) defined as positive in the upward direction (toward sky).

Net shortwave radiation (Rns) is computed as the difference between incoming and reflected shortwave radiation:

$$Rns = Rs - \alpha Rs = (1 - \alpha)Rs \quad (A3)$$

where α = albedo or canopy reflection coefficient which is fixed at 0.23 and Rs = incoming solar radiation (MJ m^{-2} d^{-1}).

Net longwave radiation (Rnl) is the difference between upward longwave radiation (Rlu) and downward longwave radiation from the sky (Rld):

$$Rnl = Rlu - Rld \quad (A4)$$

The daily value of Rnl is computed using:

$$Rnl=\sigma[(TK^4max+TK^4min)/2]*(0.34-0.14\sqrt{ea})[1.35(Rs/Rso) - 0.35] \quad (A5)$$

where Rnl is net long-wave radiation in MJ m^{-2} d^{-1}, σ is the Stefan-Boltzman constant [= 4.901 x 10^{-9} MJ K^{-4} m^{-2} d^{-1}], TK^4max is the maximum absolute temperature for the day (K), TK^4min is the minimum absolute temperatures for the day (K), ea is the actual vapor pressure (kPa), Rs is solar radiation (MJ m^{-2} d^{-1}), and Rso is calculated clear-sky solar radiation (MJ m^{-2} d^{-1}). The ratio Rs/Rso indicates the relative level of cloudiness must be limited to 0.3 < Rs/Rso < 1.0. Rs/Rso values <0.30 are set = 0.30; Rs/Rso values > 1.0 are set = 1.0.

Clear sky solar radiation (Rso) is computed using:

$$Rso = (0.75 + 2 * 10^{-5} z)Ra \qquad (A6)$$

where z is the elevation above sea level (m) and Ra is extraterrestrial radiation (MJ m^{-2} d^{-1}).

Extraterrestrial radiation is computed from earth-sun geometry using:

$$Ra = (24/\pi)Gsc\ dr * [\omega s \sin(\varphi) \sin(\delta) + \cos(\varphi) \cos(\delta) \sin(\omega s)] \qquad (A7)$$

where Gsc is the solar constant [= 4.92 MJ m^{-2} h^{-1}], dr is relative distance factor (between the earth and sun), ωs is sunset hour angle (radians), φ is the latitude (radians), and δ solar declination (radians).

The relative distance factor is computed using:

$$dr = 1 + 0.033\cos(2\pi J/365) \qquad (A8)$$

where J is the day of the year (1 = 1 January; 365 = 31 December).

The solar declination angle is computed using:

$$\delta = 0.409\sin((2\pi J/365) - 1.39) \qquad (A9)$$

The sunset angle is computed using:

$$\omega s = \arccos[-\tan(\varphi) \tan(\delta)] \qquad (A10)$$

γ: Psychrometer Constant

The psychrometer constant, γ (kPa $^{o}C^{-1}$), is computed using:

$$\gamma = 0.000665\ P \qquad (A11)$$

where P is the atmospheric pressure at the weather station site. Atmospheric pressure (kPa) is computed from the elevation of the weather station site:

$$P = 101.3\ ((293 - 0.0065\ z)\ /\ 293)^{5.26} \qquad (A12)$$

where z is the elevation of the weather station above mean sea level (m).

T: Mean Air Temperature

Mean air temperature (^{o}C) is calculated as the mean of the daily maximum and daily minimum air temperature:

$$T = (Tmax + Tmin)/2 \qquad (A13)$$

where Tmax and Tmin are the maximum and minimum air temperatures (°C) as obtained from the weather station data logger.

u_2: Wind Speed

The standardized equation requires the mean daily wind speed measured at 2 m above ground level (agl). Because AZMET measures wind speed at 3 m agl, wind speed is adjusted to an equivalent value at 2 m agl using the following:

$$u_2 = u_3 \, (4.87 / \ln(67.8 \, zw - 5.42) \qquad \text{(A14)}$$

where u_3 is the wind speed measured at 3 m agl and zw is the height of the wind speed measurement (3 m).

e_s: Saturation Vapor Pressure

Saturation vapor pressure is computed using:

$$es = (es(Tmax) + es(Tmin)) \; / \; 2 \qquad \text{(A15)}$$

where es(Tmax) and es(Tmin) are the saturation vapor pressures (kPa) computed using the maximum and minimum air temperatures, respectively. Saturation vapor pressure is computed using the following:

$$es = 0.6108 \exp((17.27Tex) \; / \; (Tex + 237.3)) \qquad \text{(A16)}$$

where Tex is either Tmax or Tmin (°C) .

ea: Actual Vapor Pressure

The mean actual vapor pressure for the day is computed by the weather station datalogger using simultaneous measurements of relative humidity (RH; %) and air temperature (Ta; °C) using:

$$ea = (RH / 100) \, [0.6108 \exp((17.27Ta) / (Ta + 237.3))] \qquad \text{(A17)}$$

Values of ea are computed by the datalogger every 10 s and averaged for the day.

Any products, services, or organizations that are mentioned, shown, or indirectly implied in this publication do not imply endorsement by The University of Arizona.

APPENDIX D

Aerotech Environmental Laboratories
a division of Aerotech Laboratories, Inc.

Monday, February 13, 2006

David Scalero
Pima County Flood Control
201 N. Stone, 4th Floor
Tucson, AZ 85701

TEL: (520) 205-8353
FAX (520) 205-8360

RE: MHP-ERM/Monthly

Dear David Scalero:

Order No.: 06010193

Aerotech Environmental received 2 sample(s) on 1/30/2006 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

for Korky Vault
Service Center Manager

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental

Date: *13-Feb-06*

CLIENT: Pima County Flood Control
Project: MHP-ERM/Monthly
Lab Order: 06010193

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
06010193-01C	Source Water		1/30/2006 10:33:00 AM	1/30/2006
06010193-02C	HP-1		1/30/2006 12:23:00 PM	1/30/2006

■ Main Laboratory: 4545 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6102 www.aerotechlabs.com
■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
■ Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4900 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

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Aerotech Environmental **Date:** *13-Feb-06*

CLIENT: Pima County Flood Control
Project: MHP-ERM/Monthly
Lab Order: 06010193

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Organic Compounds in Drinking Water: Supplement III, EPA/600/R-95/131, August 1995.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610 and AEL-Tucson holds Arizona certification no. AZ0609.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

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Aerotech Environmental **Analytical Report** **Date:** *13-Feb-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Source Water
Lab Order:	06010193	**Tag Number:**	
Project:	MHP-ERM/Monthly	**Collection Date:**	1/30/2006 10:33:00 AM
Lab ID:	06010193-01C	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: D N
Nitrogen, Nitrate/Nitrite Total	1.7	0.40		mg/L	1	2/6/2006 12:22:00 AM
NITROGEN, TOTAL KJELDAHL AS N		E351.4				Analyst: AT
Nitrogen, Total Kjeldahl	34	1.3		mg/L	1	2/6/2006
NITROGEN, TOTAL		CALC				Analyst: AC
Nitrogen, Total	35.7	1.7		mg/L	1	2/9/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

■ Main Laboratory: 4625 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 888.772.5227 Fax: 623.445.6152 www.aerotechlabs.com
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■ Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.681.4802 Fax: 623.780.7695 www.aerotechlabs.com

Aerotech Environmental Laboratories
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Aerotech Environmental — Analytical Report — Date: *13-Feb-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	06010193	**Tag Number:**	
Project:	MHP-ERM/Monthly	**Collection Date:**	1/30/2006 12:23:00 PM
Lab ID:	06010193-02C	**Matrix:**	DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: D N
Nitrogen, Nitrate/Nitrite Total	2.8	0.40		mg/L	1	2/6/2006 12:39:00 AM
NITROGEN, TOTAL KJELDAHL AS N		E351.4				Analyst: AT
Nitrogen, Total Kjeldahl	2.0	1.3		mg/L	1	2/6/2006
NITROGEN, TOTAL		CALC				Analyst: AC
Nitrogen, Total	4.8	1.7		mg/L	1	2/9/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Aerotech Environmental Laboratories

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Aerotech Environmental 13-Feb-06

Lab Order: 06010193
Client: Pima County Flood Control
Project: MHP-ERM/Monthly

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
06010193-01C	Source Water	1/30/2006 10:33:00 AM	Waste Water	ANIONS by ION CHROMATOGRAPHY			2/8/2006 12:22:00 AM
				TOTAL KJELDAHL NITROGEN			2/6/2006
				Total Nitrogen (Calculated)			2/9/2006
06010193-02C	HP-1	1/30/2006 12:23:00 PM	Drinking Water	ANIONS by ION CHROMATOGRAPHY			2/8/2006 12:39:00 AM
				TOTAL KJELDAHL NITROGEN			2/6/2006
				Total Nitrogen (Calculated)			2/9/2006

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Aerotech Environmental Laboratories
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Aerotech Environmental

Date: 13-Feb-06

CLIENT: Pima County Flood Control
Work Order: 06010193
Project: MSP-ERM/Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MB-R70066	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 70066
Client ID:	Batch ID: R70066	TestNo: E300		Analysis Date: 2/7/2006	SeqNo: 834871

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Tota	<0.40	0.40									

Sample ID: LCS-R70066	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 70066
Client ID:	Batch ID: R70066	TestNo: E300		Analysis Date: 2/7/2006	SeqNo: 834872

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Tota	7.570	0.40	8	0	94.6	90	110				

Sample ID: LCSD-R70066	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 70066
Client ID:	Batch ID: R70066	TestNo: E300		Analysis Date: 2/8/2006	SeqNo: 834873

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Tota	7.850	0.40	8	0	98.2	90	110	7.570	3.76	20	

Sample ID: 6001171 4-01AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 70066
Client ID:	Batch ID: R70066	TestNo: E300		Analysis Date: 2/8/2006	SeqNo: 834881

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Tota	37.40	2.0	40	0	93.5	80	120				

Sample ID: 6001171 4-01AMSD	SampType: MSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 70066
Client ID:	Batch ID: R70066	TestNo: E300		Analysis Date: 2/8/2006	SeqNo: 834882

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Tota	37.20	2.0	40	0	93.0	80	120	37.40	0.536	20	

Qualifiers:
- E: Value above quantitation range
- H: Holding times for preparation or analysis exceeded
- J: Analyte detected below quantitation limits
- ND: Not Detected at the Reporting Limit
- R: RPD outside accepted recovery limits
- S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 0603693
Project: MHP-ERM/Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R59959	SampType: MBLK	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 59959
Client ID:	Batch ID: R59959	TestNo: E351.4		Analysis Date: 2/6/2006	SeqNo: 833324

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	<1.3	1.3									

Sample ID: LCS-R59959	SampType: LCS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 59959
Client ID:	Batch ID: R59959	TestNo: E351.4		Analysis Date: 2/6/2006	SeqNo: 833325

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	27.58	1.3	25	0	111	85	115				

Sample ID: LCSD-R59959	SampType: LCSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 59959
Client ID:	Batch ID: R59959	TestNo: E351.4		Analysis Date: 2/6/2006	SeqNo: 833351

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	25.80	1.3	25	0	103	85	115	27.58	7.01	20	

Sample ID: 0601693-01CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 59959
Client ID:	Batch ID: R59959	TestNo: E351.4		Analysis Date: 2/6/2006	SeqNo: 833331

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	26.75	1.3	25	0	107	70	130				

Sample ID: 0601693-02CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 59959
Client ID:	Batch ID: R59959	TestNo: E351.4		Analysis Date: 2/6/2006	SeqNo: 833335

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	23.02	1.3	25	1.305	86.9	70	130				

Qualifiers:

- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

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Aerotech Environmental Laboratories

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CLIENT: Pima County Flood Control
Work Order: 06010193
Project: MEP-ERM/Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: 06011643-01CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 69960
Client ID:	Batch ID: R69960	TestNo: E351.4		Analysis Date: 2/6/2006	SeqNo: 833332

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	26.00	1.3	25	0	104	70	130	25.75	2.84	20	

Sample ID: 06011646-02CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 69960
Client ID:	Batch ID: R69960	TestNo: E351.4		Analysis Date: 2/6/2006	SeqNo: 833340

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	23.95	1.3	25	1.325	90.5	70	130	23.02	3.94	20	

Qualifiers:
- E: Value above quantitation range
- H: Holding times for preparation or analysis exceeded
- J: Analyte detected below quantitation limits
- ND: Not Detected at the Reporting Limit
- R: RPD outside accepted recovery limits
- S: Spike Recovery outside accepted recovery limits

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Aerotech Environmental Laboratories Sample Receipt Checklist

Project Checked By: KEW

Laboratory Number: 0601010193	Checklist completed by: Signature/Date 1/30/06
Client Name: Pima County Flood Control District	
Matrix: WW / DW Carrier Name: Client	Date/Time Rec'd: 1/30/06 1340 By: JL

Temperature of Samples? 9.7 °C Circle one: (Blue Ice) Wet Ice Not Present

	Yes	No*	Not Present
Shipping container/cooler in good condition?	✓		
Custody seals intact on shipping container/cooler?			✓
Custody seals intact on sample containers?			✓
Chain of Custody present and relinquished/received properly?	✓		
Chain of Custody agrees with sample labels?	✓		
Samples in proper containers/bottles?	✓		
Sample containers intact?	✓		
All samples received within holding time?	✓		**See Comment about Chlorine and pH
Is there sufficient sample volume to perform the tests?	✓		
40mL vials for volatiles & SOCs received with zero headspace?			N/A

Soil Containers:
Brass Sleeve____
Glass Jar____
MeOand____
Plastic Bag____
Encore Samplers____

Total number of bottles received: 2	If sample media:
If applicable, how many sample bottles were shipped from AEL-Tucson? 2	N/A

Number of containers received by preservative and by sample number; (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General															
B-HNO3															
C-H2SO4	1	1													
D-HCl															
E-Na2S2O3															
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? Yes ✓ No N/A

Preservative & pH	pH of samples upon receipt	If pH requires adjustment, list sample number, and reagent ID. number
Metals <2		
Nutrients <2	2	
Total Phenols <2		
413 (O&G) <2		
418 (TPH) <2		
Cyanide >12		
Sulfide >9		

Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.6. Continue on back if additional space is needed.

***The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.*

Comments:

Corrective Action:

Aerotech Environmental Laboratories

an affiliate of Severn Trent Laboratories, Inc.

[ ] [illegible] 17th Street, Tempe, AZ 85281 (480) 967-1310 FAX (480) 967-1019
[ ] North Phoenix - 1501 W. Knudsen, Phoenix, AZ 85027 (623) 780-4700 FAX (623) 780-2934
[ ] Tucson - 4455 S. Park Ave, Suite 110, Tucson, AZ 85714 (520) 807-3801 FAX (520) 807-3803
www.palabs.com or call toll-free 1-866-7PALABS (1-866-772-5227)

Quoted K2311

Lab Number: 06010193

Page 1 of 1

Customer Number:	1379913
Customer:	PIMA COUNTY FLOOD CONTROL DISTRICT
Address:	201 N. STONE AVE. 4TH FLOOR
City, State, Zip:	Tucson AZ 85701
Contact:	David Scalero
Phone:	(520) 740-6350 Fax: (520) 740-6749
E-Mail Address:	david.scalero@dot.pima.gov
Sampler:	David Scalero
Project Name:	MHP-ERP / Monthly
Project Number:	
P.O. Number:	
Fax Results:	Y N
E-Mail Results:	(Y) N

Sample Type Codes

DW - Drinking Water A - Air
WW - Waste Water S - Soil
HW - Hazardous Waste
Other

Sample Receipt

Temperature 9.7 °C
Custody Seals: Yes ___ No X
Custody Seals Intact: Yes ___ No ___
Total # of Containers: 2

Turn Around Request

___ 24 Hours ___ 48 Hours
___ 72 Hours
___ 5 Working Days
X Standard 10 Working Days
Subject to scheduling & availability (surcharges apply)

Analyses Requested

Sample Information

Lab #	Sample Identification	Date	Time	Type	Nitrate/Nitrite as N	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	# of Sample Containers
01	Source Water	1-30-06	1033	WW	1	1	1	1
02	HP-1	1-30-06	1223	DW	1	1	1	1

Instructions / Special Requirements:

Date:	Time:	Samples Relinquished By:	Received By:
1-30-06	1340	David Scalero	Lorena Leal
1/30/06	1630	Lorena Leal	Fedex

[illegible] available at www.aerotech@palabs.com or call 866.772.5227 to request a copy.

Aerotech Environmental Laboratories
a division of Aerotech Laboratories, Inc.

Thursday, March 09, 2006

David Scalero
Pima County Flood Control
201 N. Stone, 4th Floor
Tucson, AZ 85701

TEL: (520) 205-8353
FAX (520) 205-8360

RE: MHP-ERP/Monthly-Qrtly

Order No.: 06020155

Dear David Scalero:

Aerotech Environmental received 3 sample(s) on 2/27/2006 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

Korky Vault
Service Center Manager

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental **Date:** *09-Mar-06*

CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly-Qrtly
Lab Order: 06020155

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
06020155-01B	Source Water		2/27/2006 10:05:00 AM	2/27/2006
06020155-01C	Source Water		2/27/2006 10:05:00 AM	2/27/2006
06020155-01D	Source Water		2/27/2006 10:05:00 AM	2/27/2006
06020155-02B	HP-1		2/27/2006 2:10:00 PM	2/27/2006
06020155-02C	HP-1		2/27/2006 2:10:00 PM	2/27/2006
06020155-02D	HP-1		2/27/2006 2:10:00 PM	2/27/2006
06020155-03D	Trip Blank		2/27/2006	2/27/2006

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Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental **Date:** *09-Mar-06*

CLIENT:	Pima County Flood Control
Project:	MHP-ERP/Monthly-Qrtly
Lab Order:	06020155

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Organic Compounds in Drinking Water: Supplement III, EPA/600/R-95/131, August 1995.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610 and AEL-Tucson holds Arizona certification no. AZ0609.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Data Qualifiers:
Listed below are the data qualifiers used in your analytical report to explain any analytical or quality control issues. You will find them noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

L1 The associated blank spike recovery was above laboratory acceptance limits.
M6 Matrix spike recovery was high. Data reported per ADEQ policy 0154.000.
M7 Matrix spike recovery was low. Data reported per ADEQ policy 0154.000.

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CLIENT:	Pima County Flood Control
Project:	MHP-ERP/Monthly-Qrtly
Lab Order:	06020155

CASE NARRATIVE

V1 CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

Method 300.0
The sample selected as the duplicate and matrix spike contained high concentrations of chloride and/or sulfate. The analyte concentration in the sample is disproportionate to the spike level and it was not practical to analyze the sample at a dilution, as the spike would be diluted out. The LCS/LCSD were recovered acceptably demonstrating that the analytical process was in control.

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Aerotech Environmental **Analytical Report** **Date:** *09-Mar-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Source Water
Lab Order:	06020155	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qrtly	**Collection Date:**	2/27/2006 10:05:00 AM
Lab ID:	06020155-01B	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP/MS METALS, TOTAL RECOVERABLE		**E200.8**				Analyst: TD
Antimony	< 0.0030	0.0030		mg/L	1	3/1/2006 3:31:23 PM
Arsenic	0.0037	0.0010		mg/L	1	3/1/2006 3:31:23 PM
Barium	0.053	0.0010		mg/L	1	3/1/2006 3:31:23 PM
Beryllium	< 0.0010	0.0010	V1	mg/L	1	3/1/2006 3:31:23 PM
Cadmium	< 0.0010	0.0010		mg/L	1	3/1/2006 3:31:23 PM
Chromium	0.0018	0.0010		mg/L	1	3/1/2006 3:31:23 PM
Lead	0.0012	0.0010		mg/L	1	3/1/2006 3:31:23 PM
Nickel	0.0036	0.0010		mg/L	1	3/1/2006 3:31:23 PM
Selenium	< 0.0020	0.0020		mg/L	1	3/1/2006 3:31:23 PM
Thallium	< 0.0010	0.0010		mg/L	1	3/1/2006 3:31:23 PM
MERCURY, TOTAL		**E245.1**				Analyst: PC
Mercury	< 0.00020	0.00020		mg/L	1	3/6/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory
(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Aerotech Environmental **Analytical Report** **Date:** *09-Mar-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Source Water
Lab Order:	06020155	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qrtly	**Collection Date:**	2/27/2006 10:05:00 AM
Lab ID:	06020155-01C	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: LB
Nitrogen, Nitrate/Nitrite Total	1.0	0.40		mg/L	1	3/3/2006 6:23:00 PM
NITROGEN, TOTAL KJELDAHL AS N		E351.4				Analyst: AT
Nitrogen, Total Kjeldahl	38	1.3		mg/L	1	3/3/2006 12:15:00 PM
NITROGEN, TOTAL		CALC				Analyst: AC
Nitrogen, Total	39.0	1.7		mg/L	1	3/9/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
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Aerotech Environmental — Analytical Report — Date: 09-Mar-06

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Source Water
Lab Order:	06020155	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qrtly	**Collection Date:**	2/27/2006 10:05:00 AM
Lab ID:	06020155-01D	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY GC/MS		**SW8260B**				Analyst: SP
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	3/2/2006
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	3/2/2006
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	3/2/2006
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	3/2/2006
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	3/2/2006
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	3/2/2006
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	3/2/2006
Benzene	< 1.0	1.0		µg/L	1	3/2/2006
Carbon tetrachloride	< 1.0	1.0		µg/L	1	3/2/2006
Chlorobenzene	< 1.0	1.0		µg/L	1	3/2/2006
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	3/2/2006
Ethylbenzene	< 1.0	1.0		µg/L	1	3/2/2006
Styrene	< 1.0	1.0		µg/L	1	3/2/2006
Tetrachloroethene	< 1.0	1.0		µg/L	1	3/2/2006
Toluene	< 1.0	1.0	L1	µg/L	1	3/2/2006
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	3/2/2006
Trichloroethene	< 1.0	1.0		µg/L	1	3/2/2006
Trihalomethanes, Total	< 1.0	1.0		µg/L	1	3/2/2006
Vinyl chloride	< 1.0	1.0		µg/L	1	3/2/2006
Xylenes, Total	< 2.0	2.0		µg/L	1	3/2/2006
Surr: 4-Bromofluorobenzene	93.9	69.8-108		%REC	1	3/2/2006
Surr: Dibromofluoromethane	92.8	76.1-115		%REC	1	3/2/2006
Surr: Toluene-d8	91.0	74.9-110		%REC	1	3/2/2006

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Aerotech Environmental — Analytical Report — Date: 09-Mar-06

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	06020155	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qrtly	**Collection Date:**	2/27/2006 2:10:00 PM
Lab ID:	06020155-02B	**Matrix:**	DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP/MS METALS, TOTAL RECOVERABLE		**E200.8**				Analyst: TD
Antimony	< 0.0030	0.0030		mg/L	1	3/1/2006 3:35:26 PM
Arsenic	0.0013	0.0010		mg/L	1	3/1/2006 3:35:26 PM
Barium	0.14	0.0010		mg/L	1	3/1/2006 3:35:26 PM
Beryllium	< 0.0010	0.0010	V1	mg/L	1	3/1/2006 3:35:26 PM
Cadmium	< 0.0010	0.0010		mg/L	1	3/1/2006 3:35:26 PM
Chromium	< 0.0010	0.0010		mg/L	1	3/1/2006 3:35:26 PM
Lead	0.0041	0.0010		mg/L	1	3/1/2006 3:35:26 PM
Nickel	0.0033	0.0010		mg/L	1	3/1/2006 3:35:26 PM
Selenium	< 0.0020	0.0020		mg/L	1	3/1/2006 3:35:26 PM
Thallium	< 0.0010	0.0010		mg/L	1	3/1/2006 3:35:26 PM
MERCURY, TOTAL		**E245.1**				Analyst: PC
Mercury	< 0.00020	0.00020		mg/L	1	3/6/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
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Aerotech Environmental Laboratories

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Aerotech Environmental **Analytical Report** **Date:** *09-Mar-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	06020155	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qrtly	**Collection Date:**	2/27/2006 2:10:00 PM
Lab ID:	06020155-02C	**Matrix:**	DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: LB
Nitrogen, Nitrate/Nitrite Total	2.6	0.40		mg/L	1	3/3/2006 8:39:00 PM
NITROGEN, TOTAL KJELDAHL AS N		E351.4				Analyst: AT
Nitrogen, Total Kjeldahl	< 1.3	1.3		mg/L	1	3/3/2006 12:15:00 PM
NITROGEN, TOTAL		CALC				Analyst: AC
Nitrogen, Total	2.6	1.7		mg/L	1	3/9/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
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Aerotech Environmental — Analytical Report — Date: 09-Mar-06

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	06020155	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qrtly	**Collection Date:**	2/27/2006 2:10:00 PM
Lab ID:	06020155-02D	**Matrix:**	DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY GC/MS		**SW8260B**				Analyst: **SP**
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	3/2/2006
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	3/2/2006
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	3/2/2006
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	3/2/2006
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	3/2/2006
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	3/2/2006
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	3/2/2006
Benzene	< 1.0	1.0		µg/L	1	3/2/2006
Carbon tetrachloride	< 1.0	1.0		µg/L	1	3/2/2006
Chlorobenzene	< 1.0	1.0		µg/L	1	3/2/2006
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	3/2/2006
Ethylbenzene	< 1.0	1.0		µg/L	1	3/2/2006
Styrene	< 1.0	1.0		µg/L	1	3/2/2006
Tetrachloroethene	< 1.0	1.0		µg/L	1	3/2/2006
Toluene	< 1.0	1.0	L1	µg/L	1	3/2/2006
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	3/2/2006
Trichloroethene	< 1.0	1.0		µg/L	1	3/2/2006
Trihalomethanes, Total	< 1.0	1.0		µg/L	1	3/2/2006
Vinyl chloride	< 1.0	1.0		µg/L	1	3/2/2006
Xylenes, Total	< 2.0	2.0		µg/L	1	3/2/2006
Surr: 4-Bromofluorobenzene	85.0	69.8-108		%REC	1	3/2/2006
Surr: Dibromofluoromethane	93.9	76.1-115		%REC	1	3/2/2006
Surr: Toluene-d8	98.8	74.9-110		%REC	1	3/2/2006

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Aerotech Environmental **Analytical Report** **Date:** *09-Mar-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Trip Blank
Lab Order:	06020155	**Tag Number:**	
Project:	MHP-ERP/Monthly-Qrtly	**Collection Date:**	2/27/2006
Lab ID:	06020155-03D	**Matrix:**	TRIP BLANK

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY GC/MS		SW8260B				Analyst: SP
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	3/1/2006
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	3/1/2006
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	3/1/2006
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	3/1/2006
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	3/1/2006
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	3/1/2006
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	3/1/2006
Benzene	< 1.0	1.0		µg/L	1	3/1/2006
Carbon tetrachloride	< 1.0	1.0		µg/L	1	3/1/2006
Chlorobenzene	< 1.0	1.0		µg/L	1	3/1/2006
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	3/1/2006
Ethylbenzene	< 1.0	1.0		µg/L	1	3/1/2006
Styrene	< 1.0	1.0		µg/L	1	3/1/2006
Tetrachloroethene	< 1.0	1.0		µg/L	1	3/1/2006
Toluene	< 1.0	1.0		µg/L	1	3/1/2006
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	3/1/2006
Trichloroethene	< 1.0	1.0		µg/L	1	3/1/2006
Trihalomethanes, Total	< 1.0	1.0		µg/L	1	3/1/2006
Vinyl chloride	< 1.0	1.0		µg/L	1	3/1/2006
Xylenes, Total	< 2.0	2.0		µg/L	1	3/1/2006
Surr: 4-Bromofluorobenzene	104	69.8-108		%REC	1	3/1/2006
Surr: Dibromofluoromethane	105	76.1-115		%REC	1	3/1/2006
Surr: Toluene-d8	103	74.9-110		%REC	1	3/1/2006

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Aerotech Environmental

09-Mar-06

Lab Order: 060201S5
Client: Pima County Flood Control
Project: MHP-ERP/Monthly-Qrtly

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
060201S5-01B	Source Water	2/27/2006 10:05:00 AM	Waste Water	ICP/MS METALS, TOTAL RECOVERABLE		3/1/2006 4:22:39 AM	3/1/2006 5:31:23 PM
				MERCURY IN WATERS		3/6/2006 10:30:00 AM	3/6/2006
060201S5-01C				ANIONS by ION CHROMATOGRAPHY			3/3/2006 6:23:00 PM
				TOTAL KJELDAHL NITROGEN			3/3/2006 12:15:00 PM
				Total Nitrogen (Calculated)			3/6/2006
060201S5-01D				VOLATILES by GC/MS			3/2/2006
060201S5-02B	RP-1	2/27/2006 2:10:00 PM	Drinking Water	ICP/MS METALS, TOTAL RECOVERABLE		3/1/2006 4:22:39 AM	3/1/2006 5:35:26 PM
				MERCURY IN WATERS		3/6/2006 10:30:00 AM	3/6/2006
060201S5-02C				ANIONS by ION CHROMATOGRAPHY			3/3/2006 6:39:00 PM
				TOTAL KJELDAHL NITROGEN			3/3/2006 12:15:00 PM
				Total Nitrogen (Calculated)			3/6/2006
060201S5-02D				VOLATILES by GC/MS			3/2/2006
060201S5-03D	Trip Blank	2/27/2006	Trip Blank	VOLATILES by GC/MS			3/1/2006

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Aerotech Environmental

Date: 09-Mar-06

CLIENT: Pima County Flood Control
Work Order: 06020155
Project: MRP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: MB-34779	SampType: MBLK	TestCode: 200.8	Units: mg/L	Prep Date: 3/1/2006	RunNo: 70918
Client ID:	Batch ID: 34779	TestNo: E200.8		Analysis Date: 3/1/2006	SeqNo: 845031

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	<0.0030	0.0030									
Arsenic	<0.0010	0.0010									
Barium	<0.0010	0.0010									
Beryllium	<0.0010	0.0010									
Cadmium	<0.0010	0.0010									V1
Chromium	<0.0010	0.0010									
Lead	<0.0010	0.0010									
Nickel	<0.0010	0.0010									
Selenium	<0.0020	0.0020									
Thallium	<0.0010	0.0010									

Sample ID: LCS-34779	SampType: LCS	TestCode: 200.8	Units: mg/L	Prep Date: 3/1/2006	RunNo: 70918
Client ID:	Batch ID: 34779	TestNo: E200.8		Analysis Date: 3/1/2006	SeqNo: 845029

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.09534	0.0030	0.1	0	95.3	85	115				
Arsenic	0.09442	0.0010	0.1	0	94.4	85	115				
Barium	0.1029	0.0010	0.1	0	103	85	115				
Beryllium	0.1102	0.0010	0.1	0	110	85	115				
Cadmium	0.1005	0.0010	0.1	0	100	85	115				V1
Chromium	0.1033	0.0010	0.1	0	103	85	115				
Lead	0.09940	0.0010	0.1	0	99.4	85	115				
Nickel	0.09583	0.0010	0.1	0	95.8	85	115				
Selenium	0.1001	0.0020	0.1	0	100	85	115				
Thallium	0.09874	0.0010	0.1	0	98.7	85	115				

Qualifiers: E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aerotechlabs.com
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CLIENT: Pima County Flood Control
Work Order: 06020155
Project: MRP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: LCSD-34779	SampType: LCSD	TestCode: 200.8	Units: mg/L	Prep Date: 3/1/2006	RunNo: 70918
Client ID:	Batch ID: 34779	TestNo: E200.8		Analysis Date: 3/1/2006	SeqNo: 949830

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.09586	0.0030	0.1	0	95.9	85	115	0.09634	0.501	20	
Arsenic	0.09491	0.0010	0.1	0	94.9	85	115	0.09442	0.519	20	
Barium	0.1022	0.0010	0.1	0	102	85	115	0.1029	0.722	20	
Beryllium	0.1151	0.0010	0.1	0	111	85	115	0.1102	0.784	20	VI
Cadmium	0.09918	0.0010	0.1	0	99.2	85	115	0.1005	1.29	20	
Chromium	0.1037	0.0010	0.1	0	104	85	115	0.1033	0.385	20	
Lead	0.09831	0.0010	0.1	0	98.3	85	115	0.09940	0.0866	20	
Nickel	0.09650	0.0010	0.1	0	96.5	85	115	0.09583	0.604	20	
Selenium	0.1012	0.0020	0.1	0	101	85	115	0.1001	1.11	20	
Thallium	0.09760	0.0010	0.1	0	97.6	85	115	0.09874	1.15	20	

Sample ID: 0602155-01B MS	SampType: MS	TestCode: 200.8	Units: mg/L	Prep Date: 3/1/2006	RunNo: 70918
Client ID:	Batch ID: 34779	TestNo: E200.8		Analysis Date: 3/1/2006	SeqNo: 949830

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1008	0.0030	0.1	0	101	70	130				
Arsenic	0.1425	0.0010	0.1	0.04365	98.9	70	130				
Barium	0.1615	0.0010	0.1	0.06154	100	70	130				
Beryllium	0.1209	0.0010	0.1	0	121	70	130				VI
Cadmium	0.09175	0.0010	0.1	0	91.7	70	130				
Chromium	0.1085	0.0010	0.1	0	109	70	130				
Lead	0.08853	0.0010	0.1	0	88.5	70	130				
Nickel	0.09209	0.0010	0.1	0	92.1	70	130				
Selenium	0.09544	0.0020	0.1	0.002756	92.7	70	130				
Thallium	0.08474	0.0010	0.1	0	84.7	70	130				

Qualifiers:
- E: Value above quantitation range
- ND: Not Detected at the Reporting Limit
- H: Holding times for preparation or analysis exceeded
- R: RPD outside accepted recovery limits
- J: Analyte detected below quantitation limits
- S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06020155
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: 06021636-01B MSD	SampType: MSD	TestCode: 200.8	Units: mg/L	Prep Date: 3/1/2006	RunNo: 78918
Client ID:	Batch ID: 34778	TestNo: E200.8		Analysis Date: 3/1/2006	SeqNo: 845021

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1018	0.0030	0.1	0	102	70	130	0.1008	0.997	15	
Arsenic	0.1425	0.0010	0.1	0.04365	98.6	70	130	0.1426	0.0751	15	
Barium	0.1606	0.0010	0.1	0.06154	99.3	70	130	0.1615	0.403	15	
Beryllium	0.1247	0.0010	0.1	0	125	70	130	0.1209	3.08	15	VI
Cadmium	0.09326	0.0010	0.1	0	93.3	70	130	0.09575	1.64	15	
Chromium	0.1087	0.0010	0.1	0	109	70	130	0.1085	0.138	15	
Lead	0.09118	0.0010	0.1	0	91.2	70	130	0.08853	2.95	15	
Nickel	0.09269	0.0010	0.1	0	92.7	70	130	0.09209	0.649	15	
Selenium	0.09690	0.0020	0.1	0.002755	94.1	70	130	0.09544	1.51	15	
Thallium	0.08710	0.0010	0.1	0	87.1	70	130	0.08474	2.75	15	

Qualifiers:
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CLIENT: Pima County Flood Control
Work Order: 06020155
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_W

Sample ID: MB-24827	SampType: MBLK	TestCode: 245.1_W	Units: mg/L	Prep Date: 3/6/2006	RunNo: 71095
Client ID:	Batch ID: 24827	TestNo: E245.1		Analysis Date: 3/6/2006	SeqNo: 946481

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	<0.00020	0.00020									

Sample ID: LCS-24827	SampType: LCS	TestCode: 245.1_W	Units: mg/L	Prep Date: 3/6/2006	RunNo: 71095
Client ID:	Batch ID: 24827	TestNo: E245.1		Analysis Date: 3/6/2006	SeqNo: 946482

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.01010	0.00020	0.01	0	101	85	115				

Sample ID: LCSD-24827	SampType: LCSD	TestCode: 245.1_W	Units: mg/L	Prep Date: 3/6/2006	RunNo: 71095
Client ID:	Batch ID: 24827	TestNo: E245.1		Analysis Date: 3/6/2006	SeqNo: 946483

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.01020	0.00020	0.01	0	102	85	115	0.01010	0.985	20	

Sample ID: 06020155-01BMS	SampType: MS	TestCode: 245.1_W	Units: mg/L	Prep Date: 3/6/2006	RunNo: 71095
Client ID: Source Water	Batch ID: 24827	TestNo: E245.1		Analysis Date: 3/6/2006	SeqNo: 946485

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.008700	0.00020	0.01	0	87.0	85.4	122				M7

Sample ID: 06020155-01BMSD	SampType: MSD	TestCode: 245.1_W	Units: mg/L	Prep Date: 3/6/2006	RunNo: 71095
Client ID: Source Water	Batch ID: 24827	TestNo: E245.1		Analysis Date: 3/6/2006	SeqNo: 946486

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.008870	0.00020	0.01	0	88.7	85.4	122	0.008700	1.94	20	

Qualifiers:
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- S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06020155
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MB-R71091	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 71091
Client ID:	Batch ID: R71091	TestNo: E300		Analysis Date: 3/3/2006	SeqNo: 1465434

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	<0.40	0.40									

Sample ID: LCS-R71091	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 71091
Client ID:	Batch ID: R71091	TestNo: E300		Analysis Date: 3/3/2006	SeqNo: 1465435

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.880	0.40	8	0	98.5	90	110				

Sample ID: LCSD-R71091	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 71091
Client ID:	Batch ID: R71091	TestNo: E300		Analysis Date: 3/3/2006	SeqNo: 1465444

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.690	0.40	8	0	96.1	90	110	7.880	2.44	20	

Sample ID: 06030581-01AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 71091
Client ID:	Batch ID: R71091	TestNo: E300		Analysis Date: 3/3/2006	SeqNo: 1465441

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	17.45	0.40	8	10.15	91.3	80	120				

Sample ID: 06030581-01AMSD	SampType: MSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 71091
Client ID:	Batch ID: R71091	TestNo: E300		Analysis Date: 3/3/2006	SeqNo: 1465442

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	17.45	0.40	8	10.15	91.3	80	120	17.45	0	20	

Qualifiers:

- E: Value above quantitation range
- H: Holding times for preparation or analysis exceeded
- J: Analyte detected below quantitation limits
- ND: Not Detected at the Reporting Limit
- R: RPD outside accepted recovery limits
- S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06020155
Project: MFP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: MB-R78932	SampType: MBLK	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 78932
Client ID:	Batch ID: R78932	TestNo: SW8260B		Analysis Date: 3/1/2006	SeqNo: 844553

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	<1.0	1.0									
1,1,2-Trichloroethane	<1.0	1.0									
1,1-Dichloroethene	<1.0	1.0									
1,2-Dichlorobenzene	<1.0	1.0									
1,2-Dichloroethane	<1.0	1.0									
1,2-Dichloropropane	<1.0	1.0									
1,4-Dichlorobenzene	<1.0	1.0									
Benzene	<1.0	1.0									
Carbon tetrachloride	<1.0	1.0									
Chlorobenzene	<1.0	1.0									
cis-1,2-Dichloroethene	<1.0	1.0									
Ethylbenzene	<1.0	1.0									
Styrene	<1.0	1.0									
Tetrachloroethene	<1.0	1.0									
Toluene	<1.0	1.0									
trans-1,2-Dichloroethene	<1.0	1.0									
Trichloroethene	<1.0	1.0									
Trihalomethanes, Total	<1.0	1.0									
Vinyl chloride	<1.0	1.0									
Xylenes, Total	<2.0	2.0									
Surr: 4-Bromofluorobenzene	27.08	0	25	0	108	70.7	106				
Surr: Dibromofluoromethane	28.31	0	25	0	105	77.1	112				
Surr: Toluene-d8	26.64	0	25	0	107	75.8	109				

Sample ID: MB-R78995	SampType: MBLK	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 78995
Client ID:	Batch ID: R78995	TestNo: SW8260B		Analysis Date: 3/2/2006	SeqNo: 845437

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	<1.0	1.0									

Qualifiers:

- B: Value above quantitation range
- ND: Not Detected at the Reporting Limit
- H: Holding times for preparation or analysis exceeded
- R: RPD outside accepted recovery limits
- J: Analyte detected below quantitation limits
- S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06020155
Project: MEP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: MB-R70956	SampType: MBLK	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 70956
Client ID:	Batch ID: R70956	TestNo: SW8260B		Analysis Date: 3/2/2006	SeqNo: 845427

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	<1.0	1.0									
1,1-Dichloroethene	<1.0	1.0									
1,2-Dichlorobenzene	<1.0	1.0									
1,2-Dichloroethane	<1.0	1.0									
1,2-Dichloropropane	<1.0	1.0									
1,4-Dichlorobenzene	<1.0	1.0									
Benzene	<1.0	1.0									
Carbon tetrachloride	<1.0	1.0									
Chlorobenzene	<1.0	1.0									
cis-1,2-Dichloroethene	<1.0	1.0									
Ethylbenzene	<1.0	1.0									
Styrene	<1.0	1.0									
Tetrachloroethene	<1.0	1.0									
Toluene	<1.0	1.0									
trans-1,2-Dichloroethene	<1.0	1.0									
Trichloroethene	<1.0	1.0									
Vinyl chloride	<1.0	1.0									
Surr: 4-Bromofluorobenzene	24.23	0	25	0	96.9	70.7	106				
Surr: Dibromofluoromethane	21.78	0	25	0	87.1	77.1	112				
Surr: Toluene-d8	22.86	0	25	0	91.5	75.8	109				

Sample ID: LCS-R70932	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 70932
Client ID:	Batch ID: R70932	TestNo: SW8260B		Analysis Date: 3/1/2006	SeqNo: 844589

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	27.08	1.0	25	0	108	75.9	129				
1,1,2-Trichloroethane	25.39	1.0	25	0	102	74.7	123				
1,1-Dichloroethene	25.33	1.0	25	0	101	71.2	127				
1,2-Dichlorobenzene	24.33	1.0	25	0	97.3	71.8	121				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
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Project: MSHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: LCS-R70932	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 70932
Client ID:	Batch ID: R70932	TestNo: SW8260B		Analysis Date: 3/1/2006	SeqNo: 844593

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane	26.61	1.0	25	0	106	70.1	136				
1,2-Dichloropropane	25.47	1.0	25	0	102	76.4	122				
1,4-Dichlorobenzene	24.40	1.0	25	0	97.6	71	120				
Benzene	24.37	1.0	25	0	97.5	79.4	122				
Carbon tetrachloride	26.83	1.0	25	0	107	75.9	129				
Chlorobenzene	24.63	1.0	25	0	98.5	79.3	121				
cis-1,2-Dichloroethene	24.21	1.0	25	0	96.8	75.9	123				
Ethylbenzene	25.24	1.0	25	0	101	78.2	119				
Styrene	25.32	1.0	25	0	101	79.6	127				
Tetrachloroethene	26.86	1.0	25	0	107	72.4	124				
Toluene	25.81	1.0	25	0	103	80	115				
trans-1,2-Dichloroethene	25.25	1.0	25	0	101	73.6	125				
Trichloroethene	25.78	1.0	25	0	103	78.5	120				
Vinyl chloride	25.72	1.0	25	0	103	69.6	127				
Surr: 4-Bromofluorobenzene	25.96	0	25	0	103	70.7	108				
Surr: Dibromofluoromethane	25.96	0	25	0	103	77.1	112				
Surr: Toluene-d8	26.54	0	25	0	107	75.8	109				

Sample ID: LCS-R70995	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 70995
Client ID:	Batch ID: R70995	TestNo: SW8260B		Analysis Date: 3/2/2006	SeqNo: 845706

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	25.22	1.0	25	0	101	75.9	129				
1,1,2-Trichloroethane	28.81	1.0	25	0	115	74.7	123				
1,1-Dichloroethene	25.43	1.0	25	0	102	71.2	127				
1,2-Dichlorobenzene	27.41	1.0	25	0	110	71.5	121				
1,2-Dichloroethane	26.04	1.0	25	0	104	70.1	136				
1,2-Dichloropropane	27.12	1.0	25	0	108	76.4	122				
1,4-Dichlorobenzene	25.25	1.0	25	0	101	71	120				

Qualifiers:
- E: Value above quantitation range
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- J: Analyte detected below quantitation limits
- S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06020155
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: LCS-R70898	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 70898
Client ID:	Batch ID: R70898	TestNo: SW8260B		Analysis Date: 3/2/2006	SeqNo: 845736

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	25.36	1.0	25	0	105	79.4	122				
Carbon tetrachloride	24.71	1.0	25	0	98.8	75.9	129				
Chlorobenzene	25.40	1.0	25	0	102	73.3	121				
cis-1,2-Dichloroethene	25.49	1.0	25	0	106	75.9	123				
Ethylbenzene	27.77	1.0	25	0	111	78.2	119				
Styrene	26.03	1.0	25	0	104	73.8	127				
Tetrachloroethene	26.75	1.0	25	0	115	72.4	124				
Toluene	29.34	1.0	25	0	117	80	115				
trans-1,2-Dichloroethene	25.54	1.0	25	0	102	73.6	125				
Trichloroethene	26.26	1.0	25	0	105	76.5	120				
Vinyl chloride	26.12	1.0	25	0	104	69.5	137				
Surr: 4-Bromofluorobenzene	25.85	0	25	0	103	70.7	108				
Surr: Dibromofluoromethane	24.31	0	25	0	85.2	77.1	112				
Surr: Toluene-d8	25.12	0	25	0	100	75.8	109				

Sample ID: LCSD-R70898	SampType: LCSD	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 70898
Client ID:	Batch ID: R70898	TestNo: SW8260B		Analysis Date: 3/2/2006	SeqNo: 845751

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	29.27	1.0	25	0	117	75.9	129	27.08	7.77	25	
1,1,2-Trichloroethane	25.55	1.0	25	0	102	74.7	123	25.28	1.06	25	
1,1-Dichloroethene	27.69	1.0	25	0	111	71.2	127	25.33	9.49	25	
1,2-Dichlorobenzene	25.53	1.0	25	0	101	71.8	121	24.33	3.31	25	
1,2-Dichloroethane	28.70	1.0	25	0	115	70.1	136	26.61	7.56	25	
1,2-Dichloropropane	26.03	1.0	25	0	104	76.4	122	25.47	2.17	25	
1,4-Dichlorobenzene	25.97	1.0	25	0	104	71	120	24.40	6.23	25	
Benzene	26.24	1.0	25	0	105	79.4	122	24.37	7.39	25	
Carbon tetrachloride	29.45	1.0	25	0	118	75.9	129	26.83	9.31	25	
Chlorobenzene	26.01	1.0	25	0	104	73.3	121	24.63	5.45	25	

Qualifiers:
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CLIENT: Pima County Flood Control
Work Order: 06020155
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: LCSD-R78329	SampType: LCSD	TestCode: 8260_W	Units: µg/L	Prep Date:		RunNo: 78932
Client ID:	Batch ID: R78932	TestNo: SW8260B		Analysis Date: 3/1/2006		SeqNo: 844581

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	26.26	1.0	25	0	105	75.9	123	24.21	8.12	25	
Ethylbenzene	26.60	1.0	25	0	106	76.2	119	25.24	5.25	25	
Styrene	26.95	1.0	25	0	108	73.6	127	25.32	6.24	25	
Tetrachloroethene	28.32	1.0	25	0	113	72.4	134	26.86	5.29	25	
Toluene	26.50	1.0	25	0	106	83	115	25.81	2.64	25	
trans-1,2-Dichloroethene	26.79	1.0	25	0	107	73.6	125	25.25	5.92	25	
Trichloroethene	26.82	1.0	25	0	107	76.5	120	25.78	3.95	25	
Vinyl chloride	28.82	1.0	25	0	115	69.6	137	25.72	11.4	25	
Surr: 4-Bromofluorobenzene	26.21	0	25	0	105	70.7	108	25.86	0	0	
Surr: Dibromofluoromethane	25.89	0	25	0	104	77.1	112	25.88	0	0	
Surr: Toluene-d8	26.22	0	25	0	105	75.8	109	26.84	0	0	

Sample ID: LCSD-R79995	SampType: LCSD	TestCode: 8260_W	Units: µg/L	Prep Date:		RunNo: 79995
Client ID:	Batch ID: R79995	TestNo: SW8260B		Analysis Date: 3/2/2006		SeqNo: 845787

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	22.99	1.0	25	0	92.0	75.9	129	25.22	9.25	25	
1,1,2-Trichloroethane	26.37	1.0	25	0	105	74.7	123	28.81	8.84	25	
1,1-Dichloroethene	22.55	1.0	25	0	90.2	71.2	127	25.43	12.0	25	
1,2-Dichlorobenzene	25.19	1.0	25	0	101	71.8	121	27.41	8.48	25	
1,2-Dichloroethane	24.82	1.0	25	0	99.7	70.1	136	26.04	4.40	25	
1,2-Dichloropropane	25.25	1.0	25	0	101	76.4	122	27.12	7.14	25	
1,4-Dichlorobenzene	23.07	1.0	25	0	92.3	71	120	25.25	9.02	25	
Benzene	24.22	1.0	25	0	96.9	79.4	122	26.36	8.46	25	
Carbon tetrachloride	22.27	1.0	25	0	89.1	75.9	129	24.71	10.4	25	
Chlorobenzene	22.95	1.0	25	0	91.8	73.3	121	25.43	10.3	25	
cis-1,2-Dichloroethene	24.25	1.0	25	0	97.0	75.9	123	26.49	8.83	25	
Ethylbenzene	24.49	1.0	25	0	98.0	76.2	119	27.77	12.5	25	
Styrene	22.85	1.0	25	0	91.4	73.6	127	26.03	13.0	25	

Qualifiers:
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CLIENT: Pima County Flood Control
Work Order: 06020155
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: LCSD-R70995 | SampType: LCSD | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 70995
Client ID: | Batch ID: R70995 | TestNo: SW8260B | Analysis Date: 3/2/2006 | SeqNo: 845707

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tetrachloroethene	24.98	1.0	25	0	99.9	72.4	124	28.75	14.0	25	
Toluene	26.36	1.0	25	0	104	83	115	29.34	11.8	25	
trans-1,2-Dichloroethene	23.15	1.0	25	0	92.6	73.6	125	25.54	9.82	25	
Trichloroethene	23.58	1.0	25	0	94.3	76.5	120	26.26	10.8	25	
Vinyl chloride	22.14	1.0	25	0	88.6	69.6	137	26.12	16.5	25	
Surr: 4-Bromofluorobenzene	24.66	0	25	0	98.6	70.7	108	25.85	0	0	
Surr: Dibromofluoromethane	21.96	0	25	0	87.8	77.1	112	21.31	0	0	
Surr: Toluene-d8	24.36	0	25	0	97.4	75.8	109	25.12	0	0	

Sample ID: 06021516-01DMS | SampType: MS | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 70932
Client ID: | Batch ID: R70932 | TestNo: SW8260B | Analysis Date: 3/1/2006 | SeqNo: 844562

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	28.25	1.0	25	0	113	75.8	130				
1,1,2-Trichloroethane	24.78	1.0	25	0	99.1	72.5	120				
1,1-Dichloroethene	26.64	1.0	25	0	107	70.8	130				
1,2-Dichlorobenzene	23.80	1.0	25	0	95.2	68.7	122				
1,2-Dichloroethane	27.63	1.0	25	0	111	72.4	131				
1,2-Dichloropropane	24.95	1.0	25	0	99.8	74.7	121				
1,4-Dichlorobenzene	24.47	1.0	25	0	97.9	67	122				
Benzene	29.07	1.0	25	4.270	99.2	79.9	121				
Carbon tetrachloride	28.60	1.0	25	0	114	75.1	131				
Chlorobenzene	24.44	1.0	25	0	97.8	71.6	119				
cis-1,2-Dichloroethene	24.20	1.0	25	0	96.8	74	124				
Ethylbenzene	49.67	1.0	25	25.62	97.0	79	116				
Styrene	25.62	1.0	25	0	102	56.1	131				
Tetrachloroethene	27.13	1.0	25	0	109	73.5	123				
Toluene	25.81	1.0	25	0	103	81.6	115				
trans-1,2-Dichloroethene	25.61	1.0	25	0	102	72.5	127				

Qualifiers:
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J Analyte detected below quantitation limits
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CLIENT: Pima County Flood Control
Work Order: 06020155
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 060215 16-01DMS	SampType: MS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 70932
Client ID:	Batch ID: R70932	TestNo: SW8260B		Analysis Date: 3/1/2006	SeqNo: 844662

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene	28.51	1.0	25	0	106	72.1	123				
Vinyl chloride	27.47	1.0	25	0	110	70	140				
Surr: 4-Bromofluorobenzene	26.04	0	25	0	104	69.8	108				
Surr: Dibromofluoromethane	26.27	0	25	0	105	76.1	115				
Surr: Toluene-d8	26.61	0	25	0	106	74.9	110				

Sample ID: 060201 58-01D MS	SampType: MS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 70895
Client ID:	Batch ID: R70895	TestNo: SW8260B		Analysis Date: 3/2/2006	SeqNo: 845708

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	26.94	1.0	25	0	108	75.8	130				
1,1,2-Trichloroethane	27.38	1.0	25	0	110	72.5	120				
1,1-Dichloroethene	27.46	1.0	25	0	110	70.8	130				
1,2-Dichlorobenzene	27.43	1.0	25	0	110	68.7	122				
1,2-Dichloroethane	25.33	1.0	25	0	101	72.4	131				
1,2-Dichloropropane	26.53	1.0	25	0	106	74.7	121				
1,4-Dichlorobenzene	25.25	1.0	25	0	101	67	122				
Benzene	26.72	1.0	25	0	107	79.9	121				
Carbon tetrachloride	26.37	1.0	25	0	105	75.1	131				
Chlorobenzene	25.71	1.0	25	0	103	71.8	119				
cis-1,2-Dichloroethene	26.57	1.0	25	0	106	74	124				
Ethylbenzene	29.30	1.0	25	0	117	79	116				M8
Styrene	25.86	1.0	25	0	103	56.1	131				
Tetrachloroethene	29.79	1.0	25	0	119	73.5	123				
Toluene	28.42	1.0	25	0	114	81.6	115				
trans-1,2-Dichloroethene	26.52	1.0	25	0	106	72.5	127				
Trichloroethene	27.39	1.0	25	0	106	72.1	123				
Vinyl chloride	28.68	1.0	25	0	115	70	140				
Surr: 4-Bromofluorobenzene	26.44	0	25	0	106	69.8	108				

Qual Flags:
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CLIENT: Pima County Flood Control
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Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 0602015516-01D MS	SampType: MS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 70995
Client ID:	Batch ID: R70995	TestNo: SW8260B		Analysis Date: 3/2/2006	SeqNo: 846708

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	21.49	0	25	0	86.0	76.1	115				
Surr: Toluene-d8	24.13	0	25	0	96.5	74.9	110				

Sample ID: 0602015516-01DMSD	SampType: MSD	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 70932
Client ID:	Batch ID: R70932	TestNo: SW8260B		Analysis Date: 3/1/2006	SeqNo: 844563

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	26.95	1.0	25	0	108	75.8	130	28.25	4.71	25	
1,1,2-Trichloroethane	24.26	1.0	25	0	97.0	72.5	120	24.78	2.12	25	
1,1-Dichloroethene	24.94	1.0	25	0	99.8	70.8	130	26.64	6.59	25	
1,2-Dichlorobenzene	23.48	1.0	25	0	93.9	68.7	122	23.80	1.35	25	
1,2-Dichloroethane	26.99	1.0	25	0	108	72.4	131	27.63	2.34	25	
1,2-Dichloropropane	24.46	1.0	25	0	97.8	74.7	121	24.95	1.98	25	
1,4-Dichlorobenzene	23.67	1.0	25	0	94.7	67	122	24.47	3.32	25	
Benzene	27.44	1.0	25	4.279	92.7	79.9	121	29.07	5.77	25	
Carbon tetrachloride	26.90	1.0	25	0	108	75.1	131	28.60	6.13	25	
Chlorobenzene	23.53	1.0	25	0	94.1	71.6	119	24.44	3.79	25	
cis-1,2-Dichloroethene	23.32	1.0	25	0	93.3	74	124	24.20	3.76	25	
Ethylbenzene	47.36	1.0	25	25.62	87.0	79	116	49.87	5.16	25	
Styrene	24.93	1.0	25	0	99.7	56.1	131	25.62	2.73	25	
Tetrachloroethene	26.32	1.0	25	0	105	73.5	123	27.13	3.03	25	
Toluene	25.38	1.0	25	0	102	81.6	115	25.81	1.68	25	
trans-1,2-Dichloroethene	23.90	1.0	25	0	95.6	72.5	127	25.81	8.01	25	
Trichloroethene	25.79	1.0	25	0	103	72.1	123	26.51	2.75	25	
Vinyl chloride	25.86	1.0	25	0	103	70	140	27.47	7.20	25	
Surr: 4-Bromofluorobenzene	26.52	0	25	0	106	68.8	108	26.04	0	0	
Surr: Dibromofluoromethane	28.71	0	25	0	103	76.1	115	26.27	0	0	
Surr: Toluene-d8	27.10	0	25	0	108	74.9	110	26.61	0	0	

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ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 06020155-010D MSD	SampType: MSD	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 70998
Client ID:	Batch ID: R70998	TestNo: SW8260B		Analysis Date: 3/3/2006	SeqNo: 845709

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	24.36	1.0	25	0	97.5	75.8	130	26.94	9.98	25	
1,1,2-Trichloroethane	26.52	1.0	25	0	106	72.5	120	27.36	2.93	25	
1,1-Dichloroethene	24.29	1.0	25	0	97.2	70.8	130	27.45	12.2	25	
1,2-Dichlorobenzene	27.03	1.0	25	0	108	68.7	122	27.43	1.47	25	
1,2-Dichloroethane	24.78	1.0	25	0	99.1	72.4	131	25.33	2.20	25	
1,2-Dichloropropane	25.30	1.0	25	0	101	74.7	121	26.53	4.75	25	
1,4-Dichlorobenzene	24.47	1.0	25	0	97.9	67	122	25.25	3.14	25	
Benzene	24.71	1.0	25	0	98.8	79.9	121	26.72	7.82	25	
Carbon tetrachloride	23.33	1.0	25	0	93.3	75.1	131	26.37	12.2	25	
Chlorobenzene	24.91	1.0	25	0	99.6	71.6	119	25.71	3.18	25	
cis-1,2-Dichloroethene	25.33	1.0	25	0	101	74	124	26.57	4.78	25	
Ethylbenzene	27.42	1.0	25	0	110	79	116	29.30	6.83	25	
Styrene	25.01	1.0	25	0	100	56.1	131	25.86	3.34	25	
Tetrachloroethene	27.60	1.0	25	0	110	73.5	123	29.79	7.63	25	
Toluene	26.97	1.0	25	0	108	81.6	115	28.42	5.24	25	
trans-1,2-Dichloroethene	24.29	1.0	25	0	97.1	72.5	137	26.52	8.82	25	
Trichloroethene	25.39	1.0	25	0	102	72.1	123	27.33	7.36	25	
Vinyl chloride	25.36	1.0	25	0	101	70	140	28.68	12.3	25	
Surr: 4-Bromofluorobenzene	26.80	0	25	0	107	69.8	136	25.44	0	0	
Surr: Dibromofluoromethane	21.63	0	25	0	86.5	78.1	115	21.49	0	0	
Surr: Toluene-d8	24.40	0	25	0	97.6	74.9	110	24.13	0	0	

Qualifiers:
E: Value above quantitation range
ND: Not Detected at the Reporting Limit
H: Holding times for preparation or analysis exceeded
R: RPD outside accepted recovery limits
J: Analyte detected below quantitation limits
S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06020155
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R71632	SampType: MBLK	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 71632
Client ID:	Batch ID: R71632	TestNo: E351.4		Analysis Date: 3/3/2006	SeqNo: 845761

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	<1.3	1.3									

Sample ID: LCS-R71632	SampType: LCS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 71632
Client ID:	Batch ID: R71632	TestNo: E351.4		Analysis Date: 3/3/2006	SeqNo: 845762

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	26.72	1.3	25	0	107	85	115				

Sample ID: LCSD-R71632	SampType: LCSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 71632
Client ID:	Batch ID: R71632	TestNo: E351.4		Analysis Date: 3/3/2006	SeqNo: 845787

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	25.58	1.3	25	0	102	85	115	26.72	4.40	20	

Sample ID: 06020155-02CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 71632
Client ID: HP-1	Batch ID: R71632	TestNo: E351.4		Analysis Date: 3/3/2006	SeqNo: 845768

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	28.00	1.3	25	0	112	70	130				

Sample ID: 06021568-01CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 71632
Client ID:	Batch ID: R71632	TestNo: E351.4		Analysis Date: 3/3/2006	SeqNo: 845778

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	42.35	1.3	25	15.25	108	70	130				

Qualifiers:

- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06020155
Project: MHP-ERP/Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: 06020155-02CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 71832
Client ID: MP-1	Batch ID: R71832	TestNo: E351.4		Analysis Date: 3/3/2006	SeqNo: 845769

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	26.10	1.3	25	0	104	70	130	28.02	7.11	20	

Sample ID: 06021568-01CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 71832
Client ID:	Batch ID: R71832	TestNo: E351.4		Analysis Date: 3/3/2006	SeqNo: 845776

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	43.90	1.3	25	15.25	115	70	130	42.35	3.59	20	

Qualifiers:

- J: Value above quantitation range
- ND: Not Detected at the Reporting Limit
- H: Holding times for preparation or analysis exceeded
- R: RPD outside accepted recovery limits
- J: Analyte detected below quantitation limits
- S: Spike Recovery outside accepted recovery limits

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www.pdlabs.com or call toll-free 1-866-7PNLABS (1-866-772-5227)

Quote# K2311

Lab Number: 06020155

Customer Number: 1370913		Page 1 of 1	
Customer:	PIMA COUNTY FLOOD CONTROL DISTRICT	Sampler:	David Scalero
Address:	201 N. STONE AVE. 4TH FLOOR	Project Name:	MHP-ERP / Monthly-Qrtly
City, State, Zip:	Tucson AZ 85701	Project Number:	
Contact:	David Scalero	P.O. Number:	
Phone:	(520) 740-6360 Fax: (520) 740-6749	Fax Results:	Y N
E-Mail Address:	david.scalero@dot.pima.gov	E-Mail Results:	(Y) N

Sample Type Codes
DW - Drinking Water A - Air
WW - Waste Water S - Soil
HW - Hazardous Waste
Other _____

Sample Receipt
Temperature 11.6 °C
Custody Seals: Yes ___ No X
Custody Seals Intact: Yes ___ No X
Total # of Containers: 13

Turn Around Request
___ 24 Hours ___ 48 Hours
___ 72 Hours
___ 5 Working Days
X Standard 10 Working Days
Subject to advancing if availability (surcharges could)

Analyses Requested

Sample Information

Lab #	Sample Identification	Date	Time	Type	Nitrate/Nitrite as N	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	Metals (200.8) - As, Ba, Cd, Cr, Pb	- Sb, Be, Ni, Tl, Se	Mercury	8260B VOCs	# of sample Containers
01	Source Water	2-27-06	1005	WW	1	1	1	1	1	1	3	6
02	HP-1	2-27-06	1410	DW	1	1	1	1	1	1	3	6
03	Trip Blank	2/27/06	—	TB							1	1

Instructions / Special Requirements:

Date:	Time:	Samples Relinquished By:	Received By:
2-27-06	15:03	David Scalero	[illegible]
2/28/06	0800	[illegible]	[illegible]
3/2/06	1051	JJ	[illegible]

Analysis performed is subject to the Terms & Conditions available at www.aerotechlabs.com or call 866.772.5227 to request a copy.

Aerotech Environmental Laboratories Sample Receipt Checklist

Project Checked By: JF

Laboratory Number: 0602015S	Checklist completed by: 2/27/16
Client Name: Pima County EC	Signature/Date
Matrix: WW/DW Carrier Name: Client	Date/Time Rec'd: 2/27/16 1503 By: JF

Temperature of Samples? 11.6 °C Circle one: Blue Ice Wet Ice Not Present

	Yes	No*	Not Present
Shipping container/cooler in good condition?	X		
Custody seals intact on shipping container/cooler?			X
Custody seals intact on sample containers?			X
Chain of Custody present and relinquished/received properly?	X		
Chain of Custody agrees with sample labels?	X		
Samples in proper containers/bottles?	X		
Sample containers intact?	X		
All samples received within holding time?	X		
Is there sufficient sample volume to perform the tests?	X		
40mL vials for volatiles & SOCs received with zero headspace?	X		

Soil Containers:
Brass Sleeve:
Glass Jar:
Methanol:
Plastic Bag:
Encore Samplers:

**See Comment about Chlorine and pH

Total number of bottles received: 13

IH sample media:

If applicable, how many sample bottles were shipped from AEL-Tucson? 13 N/A

Number of containers received by preservative and by sample number: (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General		1													
B-HNO3	1	1													
C-H2SO4	1	1													
D-HCl	3	3	1TB												
E-Na2S2O3															
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? Yes No N/A

Preservative & pH	pH of samples upon receipt	If pH requires adjustment, list sample number, and reagent ID. number
Metals <2	<2	
Nutrients <2	<2	
Total Phenols <2		
413 (O&G) <2		
418 (TPH) <2		
Cyanide >12		
Sulfide >9		

**Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.6. Continue on back if additional space is needed.*

***The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.*

Comments:

Corrective Action:

Aerotech Environmental Laboratories
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Wednesday, April 12, 2006

David Scalero
Pima County Flood Control
201 N. Stone, 4th Floor
Tucson, AZ 85701

TEL: (520) 205-8353
FAX (520) 205-8360

RE: MHPERP

Order No.: 06030217

Dear David Scalero:

Aerotech Environmental, Inc. received 2 sample(s) on 3/30/2006 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

Korky Vault
Service Center Manager

Aerotech Environmental Laboratories

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Aerotech Environmental, Inc.

Date: *12-Apr-06*

CLIENT: Pima County Flood Control
Project: MHPERP
Lab Order: 06030217

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
06030217-01C	Source Water		3/30/2006 10:20:00 AM	3/30/2006
06030217-02C	HP-1		3/30/2006 12:00:00 PM	3/30/2006

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Aerotech Environmental, I Analytical Report Date: *12-Apr-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Source Water
Lab Order:	06030217	**Tag Number:**	
Project:	MIPERP	**Collection Date:**	3/30/2006 10:20:00 AM
Lab ID:	06030217-01C	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **LB**
Nitrogen, Nitrate/Nitrite Total	1.4	0.40		mg/L	1	4/11/2006 12:16:00 PM
NITROGEN, TOTAL KJELDAHL AS N		**E351.4**				Analyst: **AT**
Nitrogen, Total Kjeldahl	28	1.3		mg/L	1	4/11/2006 2:00:00 PM
NITROGEN, TOTAL		**CALC**				Analyst: **AC**
Nitrogen, Total	30	1.7		mg/L	1	4/12/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Aerotech Environmental, I **Analytical Report** **Date:** *12-Apr-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	06030217	**Tag Number:**	
Project:	MHPERP	**Collection Date:**	3/30/2006 12:00:00 PM
Lab ID:	06030217-02C	**Matrix:**	DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **LB**
Nitrogen, Nitrate/Nitrite Total	2.8	0.40		mg/L	1	4/11/2006 12:32:00 PM
NITROGEN, TOTAL KJELDAHL AS N		**E351.4**				Analyst: **AT**
Nitrogen, Total Kjeldahl	< 1.3	1.3		mg/L	1	4/11/2006 2:00:00 PM
NITROGEN, TOTAL		**CALC**				Analyst: **AC**
Nitrogen, Total	2.8	1.7		mg/L	1	4/12/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Aerotech Environmental Laboratories

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Aerotech Environmental, Inc. **Date:** *12-Apr-06*

CLIENT: Pima County Flood Control
Project: MIPERP
Lab Order: 06030217

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Organic Compounds in Drinking Water: Supplement III, EPA/600/R-95/131, August 1995.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610 and AEL-Tucson holds Arizona certification no. AZ0609.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

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Aerotech Environmental, Inc.

12-Apr-06

Lab Order: 0603O217
Client: Pima County Flood Control
Project: MBIPERP

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0603O217-03C	Source Water	3/30/2006 10:20:00 AM	Waste Water	ANIONS by ION CHROMATOGRAPHY			4/11/2006 12:16:00 PM
				TOTAL KJELDAHL NITROGEN			4/11/2006 2:00:00 PM
				Total Nitrogen (Calculated)			4/12/2006
0603O217-02C	BP-1	3/30/2006 12:00:00 PM	Drinking Water	ANIONS by ION CHROMATOGRAPHY			4/11/2006 12:32:00 PM
				TOTAL KJELDAHL NITROGEN			4/11/2006 2:00:00 PM
				Total Nitrogen (Calculated)			4/12/2006

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Aerotech Environmental Laboratories

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Aerotech Environmental, Inc.

Date: 12-Apr-06

CLIENT: Pima County Flood Control
Work Order: 06030217
Project: MIDPERP

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MB-R72551	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 72551
Client ID:	Batch ID: R72551	TestNo: E300		Analysis Date: 4/11/2006	SeqNo: 863368

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	<0.40	0.40									

Sample ID: LCS-R72551	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 72551
Client ID:	Batch ID: R72551	TestNo: E300		Analysis Date: 4/11/2006	SeqNo: 863367

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.823	0.40	8	0	97.8	90	110				

Sample ID: LCSD-R72551	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 72551
Client ID:	Batch ID: R72551	TestNo: E300		Analysis Date: 4/11/2006	SeqNo: 863369

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.410	0.40	8	0	92.6	90	110	7.820	5.38	20	

Sample ID: 06040920-01AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 72551
Client ID:	Batch ID: R72551	TestNo: E300		Analysis Date: 4/11/2006	SeqNo: 863448

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	11.67	0.40	8	4.410	90.8	80	120				

Sample ID: 06040920-01AMSD	SampType: MSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 72551
Client ID:	Batch ID: R72551	TestNo: E300		Analysis Date: 4/11/2006	SeqNo: 863449

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	11.72	0.40	8	4.410	91.4	80	120	11.67	0.428	20	

Qualifiers:

- E Value above quantitative range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

- Main Laboratory: 4646 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6102 www.aeroenvirolabs.com
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CLIENT: Pima County Flood Control
Work Order: 06030217
Project: MHPERP

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R72538	SampType: MBLK	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 72538
Client ID:	Batch ID: R72538	TestNo: E351.4		Analysis Date: 4/11/2006	SeqNo: 863137

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	<1.3	1.3									

Sample ID: LCS-R72538	SampType: LCS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 72538
Client ID:	Batch ID: R72538	TestNo: E351.4		Analysis Date: 4/11/2006	SeqNo: 863138

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	26.30	1.3	25	0	105	85	115				

Sample ID: LCSD-R72538	SampType: LCSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 72538
Client ID:	Batch ID: R72538	TestNo: E351.4		Analysis Date: 4/11/2006	SeqNo: 863174

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	26.72	1.3	25	0	107	85	115	26.30	1.60	20	

Sample ID: 06030217-02CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 72538
Client ID: HP-1	Batch ID: R72538	TestNo: E351.4		Analysis Date: 4/11/2006	SeqNo: 863141

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	21.30	1.3	25	0	85.2	70	130				

Sample ID: 06040492-01CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 72538
Client ID:	Batch ID: R72538	TestNo: E351.4		Analysis Date: 4/11/2006	SeqNo: 863161

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	22.55	1.3	25	0	90.2	70	130				

Qualifiers:
- E: Value above quantitation range
- H: Holding times for preparation or analysis exceeded
- J: Analyte detected below quantitation limits
- ND: Not Detected at the Reporting Limit
- R: RPD outside accepted recovery limits
- S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06030217
Project: MHPERP

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: 06046725-01CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 72538
Client ID:	Batch ID: R72538	TestNo: E351.4		Analysis Date: 4/11/2006	SeqNo: 863170

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	21.65	1.3	25	1.550	80.4	70	130				

Sample ID: 06030217-02CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 72538
Client ID: HP-1	Batch ID: R72538	TestNo: E351.4		Analysis Date: 4/11/2006	SeqNo: 863142

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	17.63	1.3	25	0	70.5	70	130	21.30	18.9	29	

Sample ID: 06046452-01CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 72538
Client ID:	Batch ID: R72538	TestNo: E351.4		Analysis Date: 4/11/2006	SeqNo: 863162

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	21.15	1.3	25	0	84.6	70	130	22.55	6.41	29	

Sample ID: 06046725-01CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 72538
Client ID:	Batch ID: R72538	TestNo: E351.4		Analysis Date: 4/11/2006	SeqNo: 863171

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	22.38	1.3	25	1.550	83.3	70	130	21.65	3.29	29	

Qualifiers:
- E: Value above quantitation range
- H: Holding times for preparation or analysis exceeded
- J: Analyte detected below quantitation limits
- ND: Not Detected at the Reporting Limit
- R: RPD outside accepted recovery limits
- S: Spike Recovery outside accepted recovery limits

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[ ] Tucson - 4455 S. Park Ave, Suite 110, Tucson, AZ 85714 520.807.2801 - FAX 520.807.3803

www.aerotechlabs.com or call toll-free 888.772.5227

Lab Number: 06030217

Customer Number:	Page 1 of 1
Customer: Pima County Flood Control	Sampler: David Scalco
Address: 201 N. Stone Ave., 4th Floor	Project Name: MHPERP
City, State, Zip: Tucson Az 85701	Project Number:
Contact: David Scalco	P.O. Number:
Phone: 520-740-6350 Fax: 520-205-8360	Fax Results: Y N
E-Mail Address: david.scalco@dot.pima.gov	E-Mail Results: (Y) N

DW - Drinking Water A - Air
WW - Waste Water S - Soil
HW - Hazardous Waste
Other _____

Temperature 7.5 °C
Custody Seals: Yes ____ No ✓
Custody Seals Intact: Yes ____ No ✓
Total # of Containers: 4

____ 24 Hours ____ 48 Hours
____ 72 Hours
____ 5 Working Days
____ Standard 10 Working Days
(Subject to scheduling & availability (surcharges apply))

Sample Information

					NO2 + NO3	Total Nitrogen	TKN																
	Source Water	3-30-06	1020	WW	1	1	1																3
	HP-1	3-30-06	1200	DW	1	1	1																3
	Trip Blank (TRIP BLNK)			✓																			1 (6)

Instructions / Special Requirements:

Date:	Time:	Samples Relinquished By:	Received By:
3-30-06	1345		
3-30-06	1630		FEDEX

Analysis performed is subject to the Terms & Conditions available at www.aerotechlabs.com or call 888.772.5227 to request a copy.

Aerotech Environmental Laboratories Sample Receipt Checklist

Project Checked By: [signature]

Laboratory Number: 06030217	Checklist completed by: [signature]
Client Name: Pima County Flood	Signature/Date 3-31-06
Matrix: ww/ow Carrier Name: Client	Date/Time Rec'd: 3-30-06/13:45 By: [initials]

Temperature of Samples? 12.4 °C Circle one: Blue Ice Wet Ice Not Present

	Yes	No*	Not Present
Shipping container/cooler in good condition?	✓		
Custody seals intact on shipping container/cooler?			✓
Custody seals intact on sample containers?			✓
Chain of Custody present and relinquished/received properly?	✓		
Chain of Custody agrees with sample labels?	✓		
Samples in proper containers/bottles?	✓		
Sample containers intact?	✓		
All samples received within holding time?	✓		
Is there sufficient sample volume to perform the tests?	✓		
40mL vials for volatiles & SOCs received with zero headspace?			N/A

Soil Containers:
Brass Sleeve____
Glass Jar____
Methanol____
Plastic Bag____
Encore Samplers____

**See Comment about Chlorine and pH

Total number of bottles received: 4	IH sample media:
If applicable, how many sample bottles were shipped from AEL-Tucson? 4	N/A

Number of containers received by preservative and by sample number: (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General	1	1													
B-HNO3															
C-H2SO4	1	1													
D-HCl															
E-Na2S2O3	Tab														
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? Yes ✓ No N/A ✓ SB

Preservative & pH		pH of samples upon receipt	If pH requires adjustment, list sample number, and reagent ID, number
Metals	<2		
Nutrients	<2	<2	
Total Phenols	<2		
413 (O&G)	<2		
418 (TPH)	<2		
Cyanide	>12		
Sulfide	>9		

**Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.8. Continue on back if additional space is needed.*

***The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.*

Comments: Feel Run in Tucson SB

Corrective Action:

PHX-SM-002/A-11/04

Aerotech Environmental Laboratories
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Thursday, May 11, 2006

David Scalero
Pima County Flood Control
201 N. Stone, 4th Floor
Tucson, AZ 85701

TEL: (520) 205-8353
FAX (520) 205-8360

RE: MHP-ERP/Monthly

Order No.: 06040210

Dear David Scalero:

Aerotech Environmental, Inc. received 2 sample(s) on 4/28/2006 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

Korky Vault
Service Center Manager

Aerotech Environmental Laboratories

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Aerotech Environmental, Inc.

Date: *11-May-06*

CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly
Lab Order: 06040210

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
06040210-01C	Source Water		4/28/2006 11:20:00 AM	4/28/2006
06040210-02C	HP-1		4/28/2006 1:00:00 PM	4/28/2006

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Aerotech Environmental, Inc. **Date:** *11-May-06*

CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly
Lab Order: 06040210

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Organic Compounds in Drinking Water. Supplement III, EPA/600/R-95/131, August 1995.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610 and AEL-Tucson holds Arizona certification no. AZ0609.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

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Aerotech Environmental, I **Analytical Report** **Date:** *11-May-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Source Water
Lab Order:	06040210	**Tag Number:**	
Project:	MHP-ERP/Monthly	**Collection Date:**	4/28/2006 11:20:00 AM
Lab ID:	06040210-01C	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: LB
Nitrogen, Nitrate/Nitrite Total	0.82	0.40		mg/L	1	5/5/2006 5:55:00 AM
NITROGEN, TOTAL KJELDAHL AS N		E351.4				Analyst: AT
Nitrogen, Total Kjeldahl	37	1.3		mg/L	1	5/5/2006
NITROGEN, TOTAL		CALC				Analyst: LMc
Nitrogen, Total	38	1.7		mg/L	1	5/9/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory
(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Aerotech Environmental, I **Analytical Report** **Date:** *11-May-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	06040210	**Tag Number:**	
Project:	MHP-ERP/Monthly	**Collection Date:**	4/28/2006 1:00:00 PM
Lab ID:	06040210-02C	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **LB**
Nitrogen, Nitrate/Nitrite Total	2.4	0.40		mg/L	1	5/5/2006 6:12:00 AM
NITROGEN, TOTAL KJELDAHL AS N		**E351.4**				Analyst: **AT**
Nitrogen, Total Kjeldahl	< 1.3	1.3		mg/L	1	5/8/2006
NITROGEN, TOTAL		**CALC**				Analyst: **LMc**
Nitrogen, Total	2.4	1.7		mg/L	1	5/9/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Aerotech Environmental, Inc.

11-May-06

Lab Order: 0604021D
Client: Pima County Flood Control
Project: MHP-ERP/Monthly

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0604021D-01C	Source Water	4/28/2006 11:20:00 AM	Waste Water	ANIONS by ION CHROMATOGRAPHY			5/5/2006 5:55:00 AM
				TOTAL KJELDAHL NITROGEN			5/8/2006
				Total Nitrogen (Calculated)			5/9/2006
0604021D-02C	EP-1	4/28/2006 1:00:00 PM		ANIONS by ION CHROMATOGRAPHY			5/5/2006 6:12:00 AM
				TOTAL KJELDAHL NITROGEN			5/8/2006
				Total Nitrogen (Calculated)			5/9/2006

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Aerotech Environmental, Inc.

Date: 11-May-06

CLIENT: Pima County Flood Control
Work Order: 06040230
Project: MSP-ERP/Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MB-R73748	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 73748
Client ID:	Batch ID: R73748	TestNo: E300		Analysis Date: 5/5/2006	SeqNo: 876908

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	<0.40	0.40									

Sample ID: LCS-R73748	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 73748
Client ID:	Batch ID: R73748	TestNo: E300		Analysis Date: 5/5/2006	SeqNo: 876909

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.950	0.40	8	0	99.4	90	110				

Sample ID: LCSD-R73748	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 73748
Client ID:	Batch ID: R73748	TestNo: E300		Analysis Date: 5/5/2006	SeqNo: 876917

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.750	0.40	8	0	96.9	90	110	7.950	2.55	20	

Sample ID: 06041713-05AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 73748
Client ID:	Batch ID: R73748	TestNo: E300		Analysis Date: 5/5/2006	SeqNo: 876913

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	77.40	4.0	80	0	96.8	80	120				

Sample ID: 06041713-05AMSD	SampType: MSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 73748
Client ID:	Batch ID: R73748	TestNo: E300		Analysis Date: 5/5/2006	SeqNo: 876914

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	77.30	4.0	80	0	96.6	80	120	77.40	0.129	20	

Qualifiers:
- E: Value above quantitation range
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- H: Holding times for preparation or analysis exceeded
- R: RPD outside accepted recovery limits
- J: Analyte detected below quantitation limits
- S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 0604021 0
Project: MSP-ERP/Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R73832	SampType: MBLK	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 73832
Client ID:	Batch ID: R73832	TestNo: E351.4		Analysis Date: 5/8/2006	SeqNo: 877796

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	<1.3	1.3									

Sample ID: LCS-R73832	SampType: LCS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 73832
Client ID:	Batch ID: R73832	TestNo: E351.4		Analysis Date: 5/8/2006	SeqNo: 877799

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	25.08	1.3	25	0	100	85	115				

Sample ID: LCSD-R73832	SampType: LCSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 73832
Client ID:	Batch ID: R73832	TestNo: E351.4		Analysis Date: 5/8/2006	SeqNo: 877825

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	23.46	1.3	25	0	93.8	85	115	25.08	6.70	20	

Sample ID: 0605009-01CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 73832
Client ID:	Batch ID: R73832	TestNo: E351.4		Analysis Date: 5/8/2006	SeqNo: 877809

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	22.35	1.3	25	1.850	82.0	70	130				

Sample ID: 0605073-01CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 73832
Client ID:	Batch ID: R73832	TestNo: E351.4		Analysis Date: 5/8/2006	SeqNo: 877819

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	25.68	1.3	25	1.550	96.1	70	130				

Qualifiers:
- E: Value above quantitation range
- ND: Not Detected at the Reporting Limit
- H: Holding times for preparation or analysis exceeded
- R: RPD outside accepted recovery limits
- J: Analyte detected below quantitation limits
- S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 0604021 0
Project: MHP-ERP/Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: 0605 0006-01CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 73832
Client ID:	Batch ID: R73832	TestNo: E351.4		Analysis Date: 5/8/2006	SeqNo: 877819

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	22.45	1.3	25	9.850	82.4	70	130	22.35	0.446	20	

Sample ID: 0605 0673-01CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 73832
Client ID:	Batch ID: R73832	TestNo: E351.4		Analysis Date: 5/8/2006	SeqNo: 877829

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	27.02	1.3	25	9.850	101	70	130	25.88	4.35	20	

Qualifiers:
E: Value above quantitation range
H: Holding times for preparation or analysis exceeded
J: Analyte detected below quantitation limits
ND: Not Detected at the Reporting Limit
R: RPD outside accepted recovery limits
S: Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6100 www.aerotechlabs.com
■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
■ Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695 www.aerotechlabs.com

Aerotech Environmental Laboratories

an affiliate of Severn Trent Laboratories, Inc.

[ ] [illegible], 17th Street, Tempe, AZ 85281 (480) 967-1310 FAX (480) 967-1019
[ ] North Phoenix - 1501 W. Knudsen, Phoenix, AZ 85027 (623) 780-4700 FAX (623) 780-2904
[ ] Tucson - 4455 S. Park Ave, Suite 110, Tucson, AZ 85714 (520) 807-3801 FAX (520) 807-3803
www.palabs.com or call toll-free 1-866-7PALABS (1-866-773-5227)

Quote# K2311

Lab Number: 06040210

Customer Number:	1370013	Page 1 of 1	
Customer:	PIMA COUNTY FLOOD CONTROL DISTRICT	Sampler:	David Scalero
Address:	201 N. STONE AVE. 4TH FLOOR	Project Name:	MHP-ERP / Monthly
City, State, Zip:	Tucson AZ 85701	Project Number:	
Contact:	David Scalero	P.O. Number:	
Phone:	(520) 740-6350 Fax: (520) 740-6749	Fax Results:	Y N
E-Mail Address:	david.scalero@dot.pima.gov	E-Mail Results:	(Y) N

Sample Type Codes

DW - Drinking Water A - Air
WW - Waste Water S - Soil
HW - Hazardous Waste
Other _____

Sample Receipt

Temperature 13.3 °C
Custody Seals: Yes ___ No X
Custody Seals Intact: Yes ___ No X
Total # of Containers: 2

Turn Around Request

___ 24 Hours ___ 48 Hours
___ 72 Hours
___ 5 Working Days
X Standard 10 Working Days
Subject to scheduling & availability (surcharges apply)

Analyses Requested

Sample Information

Lab #	Sample Identification	Date	Time	Type	Nitrate/Nitrite as N	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	# of Sample Containers
01	Source Water	4-28-06	1120	WW	1	1	1	1
02	HP-1	4-28-06	1300	DW	1	1	1	1

Instructions / Special Requirements:

Date:	Time:	Samples Relinquished By:	Received By:
4-28-06	1345	David Scalero	[signature]
5/1/06	1700	[signature]	J2 ERP

Analysis performed is subject to the Terms & Conditions available at www.aeroenvirolabs.com or call 866.722.5227 to request a copy.

Aerotech Environmental Laboratories Sample Receipt Checklist

Project Checked By: UN

Laboratory Number: 0604021D	Checklist completed by: [signature] 4/28/06
Client Name: Pima County EC	Signature/Date
Matrix: WW DW Carrier Name: Client	Date/Time Rec'd: 4/28/06 1345 BxF

Temperature of Samples? 13.3 °C Circle one: Blue Ice Wet Ice Not Present

	Yes	No*	Not Present
Shipping container/cooler in good condition?	X		
Custody seals intact on shipping container/cooler?			X
Custody seals intact on sample containers?			X
Chain of Custody present and relinquished/received properly?	X		
Chain of Custody agrees with sample labels?	X		
Samples in proper containers/bottles?	X		
Sample containers intact?	X		
All samples received within holding time?	X		**See Comment about Chlorine and pH
Is there sufficient sample volume to perform the tests?	X		
40mL vials for volatiles & SOCs received with zero headspace?			N/A

Soil Containers:
Brass Sleeve____
Glass Jar____
Methanol____
Plastic Bag____
Encore Samplers____

Total number of bottles received: 2	IH sample media:
If applicable, how many sample bottles were shipped from AEL-Tucson? 2	N/A

Number of containers received by preservative and by sample number: (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General															
B-HNO3															
C-H2SO4	1	1													
D-HCl															
E-Na2S2O3															
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? (Yes) No N/A

Preservative & pH		pH of samples upon receipt	If pH requires adjustment, list sample number, and reagent ID. number
Metals	<2		
Nutrients	<2	2	
Total Phenols	<2		
413 (O&G)	<2		
418 (TPH)	<2		
Cyanide	>12		
Sulfide	>9		

**Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.6. Continue on back if additional space is needed.*

***The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.*

Comments:

Corrective Action:

Aerotech Environmental Laboratories
a division of Aerotech Laboratories, Inc.

Wednesday, June 14, 2006

David Scalero
Pima County Flood Control
201 N. Stone, 4th Floor
Tucson, AZ 85701

TEL: (520) 205-8353
FAX (520) 205-8360

RE: MHPERP Monthly

Order No.: 06050138

Dear David Scalero:

Aerotech Environmental, Inc. received 2 sample(s) on 5/31/2006 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

Korky Vault
Service Center Manager

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental, Inc.

Date: 14-Jun-06

CLIENT: Pima County Flood Control
Project: MHPERP Monthly
Lab Order: 06050138

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
06050138-01C	Source Water		5/31/2006 9:25:00 AM	5/31/2006
06050138-02C	HP-1		5/31/2006 11:05:00 AM	5/31/2006

■ Main Laboratory: 4845 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.6227 Fax: 623.445.6192 www.aerotechlabs.com
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Aerotech Environmental Laboratories

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Aerotech Environmental, Inc.

Date: *14-Jun-06*

CLIENT: Pima County Flood Control
Project: MHPERP Monthly
Lab Order: 06050138

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Organic Compounds in Drinking Water: Supplement III, EPA/600/R-95/131, August 1995.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610 and AEL-Tucson holds Arizona certification no. AZ0609.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

■ Main Laboratory: 4625 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 888.772.5227 Fax: 623.445.6192 www.aeroenvironlabs.com
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Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental, I **Analytical Report** Date: *14-Jun-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Source Water
Lab Order:	06050138	**Tag Number:**	
Project:	MBPERP Monthly	**Collection Date:**	5/31/2006 9:25:00 AM
Lab ID:	06050138-01C	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **LB**
Nitrogen, Nitrate/Nitrite Total	1.9	0.40		mg/L	1	6/9/2006 9:29:00 PM
NITROGEN, TOTAL KJELDAHL AS N		**E351.4**				Analyst: **JLS**
Nitrogen, Total Kjeldahl	28	1.3		mg/L	1	6/8/2006
NITROGEN, TOTAL		**CALC**				Analyst: **LMc**
Nitrogen, Total	28	1.7		mg/L	1	6/12/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory
(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.3227 Fax: 623.445.6102 www.aeroenvirolabs.com
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Aerotech Environmental Laboratories

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Aerotech Environmental, I — Analytical Report

Date: 14-Jun-06

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	06050138	**Tag Number:**	
Project:	MHPERP Monthly	**Collection Date:**	5/31/2006 11:05:00 AM
Lab ID:	06050138-02C	**Matrix:**	DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **LB**
Nitrogen, Nitrate/Nitrite Total	2.8	0.40		mg/L	1	6/9/2006 9:57:00 PM
NITROGEN, TOTAL KJELDAHL AS N		**E351.4**				Analyst: **JLS**
Nitrogen, Total Kjeldahl	2.6	1.3		mg/L	1	6/8/2006
NITROGEN, TOTAL		**CALC**				Analyst: **LMc**
Nitrogen, Total	5.4	1.7		mg/L	1	6/12/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Aerotech Environmental, Inc.

14-Jun-06

Lab Order: 06050138
Client: Pima County Flood Control
Project: MHPERP Monthly

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
06050138-01C	Source Water	5/31/2006 9:25:00 AM	Waste Water	ANIONS by ION CHROMATOGRAPHY			6/9/2006 9:39:00 PM
				TOTAL KJELDAHL NITROGEN			6/8/2006
				Total Nitrogen (Calculated)			6/12/2006
06050138-02C	HP-1	5/31/2006 11:05:00 AM	Drinking Water	ANIONS by ION CHROMATOGRAPHY			6/9/2006 9:57:00 PM
				TOTAL KJELDAHL NITROGEN			6/8/2006
				Total Nitrogen (Calculated)			6/12/2006

- Main Laboratory: 4640 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.5130 www.aerotechlabs.com
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Aerotech Environmental, Inc.

Date: 14-Jun-06

CLIENT: Pima County Flood Control
Work Order: 06050138
Project: MIIPERF Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MB-R75123	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 75123
Client ID:	Batch ID: R75123	TestNo: E300		Analysis Date: 6/9/2006	SeqNo: 892113

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	<0.40	0.40									

Sample ID: LCS-R75123	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 75123
Client ID:	Batch ID: R75123	TestNo: E300		Analysis Date: 6/9/2006	SeqNo: 892114

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.813	0.40	8	0	97.7	90	110				

Sample ID: LCSD-R75123	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 75123
Client ID:	Batch ID: R75123	TestNo: E300		Analysis Date: 6/9/2006	SeqNo: 892124

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.861	0.40	8	0	98.3	90	110	7.861	0	20	

Sample ID: 06060053-16AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 75123
Client ID:	Batch ID: R75123	TestNo: E300		Analysis Date: 6/10/2006	SeqNo: 892121

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	15.56	0.40	8	8.102	96.5	80	120				

Sample ID: 06060053-16AMSD	SampType: MSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 75123
Client ID:	Batch ID: R75123	TestNo: E300		Analysis Date: 6/10/2006	SeqNo: 892122

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	15.93	0.40	8	8.102	98.8	80	120	15.56	2.38	20	

Qualifiers:

- B: Value above quantitation range
- ND: Not Detected at the Reporting Limit
- H: Holding times for preparation or analysis exceeded
- R: RPD outside accepted recovery limits
- J: Analyte detected below quantitation limits
- S: Spike Recovery outside accepted recovery limits

- Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 888.772.5227 Fax: 623.445.8192 www.aerotechlabs.com
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CLIENT: Pima County Flood Control
Work Order: 06050138
Project: MIPERP Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R75007	SampType: MBLK	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 75007
Client ID:	Batch ID: R75007	TestNo: E351.4		Analysis Date: 6/5/2006	SeqNo: 891550

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	<1.3	1.3									

Sample ID: LCS-R75007	SampType: LCS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 75007
Client ID:	Batch ID: R75007	TestNo: E351.4		Analysis Date: 6/5/2006	SeqNo: 891585

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	28.93	1.3	25	0	116	85	115				

Sample ID: LCSD-R75007	SampType: LCSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 75007
Client ID:	Batch ID: R75007	TestNo: E351.4		Analysis Date: 6/5/2006	SeqNo: 891586

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	25.00	1.3	25	0	100	85	115	26.93	7.41	20	

Sample ID: 06051573-03CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 75007
Client ID:	Batch ID: R75007	TestNo: E351.4		Analysis Date: 6/5/2006	SeqNo: 891564

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	22.35	1.3	25	1.700	82.6	70	130				

Sample ID: 06060918-01CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 75007
Client ID:	Batch ID: R75007	TestNo: E351.4		Analysis Date: 6/5/2006	SeqNo: 891678

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	24.90	1.3	25	2.750	88.6	70	130				

Qualifiers:

- E: Value above quantitation range
- H: Holding times for preparation or analysis exceeded
- J: Analyte detected below quantitation limits
- ND: Not Detected at the Reporting Limit
- R: RPD outside accepted recovery limits
- S: Spike Recovery outside accepted recovery limits

- Main Laboratory: 4845 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.8192 www.aerotechlabs.com
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CLIENT: Pima County Flood Control
Work Order: 06050138
Project: MSHPERP Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: 06051573-03CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 75087
Client ID:	Batch ID: R75087	TestNo: E351.4		Analysis Date: 6/8/2006	SeqNo: 891665

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	21.18	1.3	25	1.700	77.9	70	130	22.35	5.40	20	

Sample ID: 06060018-01CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 75087
Client ID:	Batch ID: R75087	TestNo: E351.4		Analysis Date: 6/8/2006	SeqNo: 891679

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	25.50	1.3	25	2.750	91.0	70	130	24.90	2.38	20	

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

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www.aeroenvirolabs.com or call toll-free 866.772.5227

Lab Number: 06050138

Customer Number:	Page 1 of 1
Customer: Pima County Flood Control	Sampler: David Scalero
Address: 201 N. State Ave., 4th Floor	Project Name: MHPERP
City, State, Zip: Tucson, AZ 85701	Project Number:
Contact: David Scalero	P.O. Number:
Phone: 520-205-8353 Fax: 520-205-8360	Fax Results: Y N
E-Mail Address: David.Scalero@rfcd.pima.gov	E-Mail Results: (Y) N

DW - Drinking Water A - Air
WW - Waste Water S - Soil
HW - Hazardous Waste
Other _____

Temperature: _____ °F
Custody Seals: Yes_____ No_____
Custody Seals Intact: Yes_____ No_____
Total # of Containers: _____

____ 24 Hours ____ 48 Hours
____ 72 Hours
____ 5 Working Days
X Standard 10 Working Days
Subject to scheduling & availability (surcharges apply)

Sample Information

					NO_2+NO_3	TKN	Total Nitrogen													
	Source Water	5-31-06	925	WW	1	1	1													1
	HP-1	5-31-06	1105	DW	1	1	1													1

Instructions / Special Requirements:

Date:	Time:	Samples Relinquished By:	Received By:
5-31-06	1447	David Scalero	RRVaust
5/31/06	1630	RRVaust	J2 Express

Analysis performed is subject to the Terms & Conditions available at www.aeroenvirolabs.com or call 866.772.5227 to request a copy.

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Wednesday, July 05, 2006

David Scalero
Pima County Flood Control
201 N. Stone, 4th Floor
Tucson, AZ 85701

TEL: (520) 205-8353
FAX: (520) 205-8360

RE: MHP-ERP/Monthly Quarterly

Order No.: 06060831

Dear David Scalero:

Aerotech Environmental, Inc. received 3 sample(s) on 6/21/2006 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

Korky Vault
Service Center Manager

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental, Inc.

Date: *05-Jul-06*

CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly Quarterly
Lab Order: 06060831

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
06060831-01B	Source Water		6/21/2006 9:05:00 AM	6/21/2006
06060831-01C	Source Water		6/21/2006 9:05:00 AM	6/21/2006
06060831-01D	Source Water		6/21/2006 9:05:00 AM	6/21/2006
06060831-02B	HP-1		6/21/2006	6/21/2006
06060831-02C	HP-1		6/21/2006	6/21/2006
06060831-02D	HP-1		6/21/2006	6/21/2006
06060831-03D	Trip Blank		6/21/2006	6/21/2006

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Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental, Inc. **Date:** 05-Jul-06

CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly Quarterly
Lab Order: 06060831

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Organic Compounds in Drinking Water: Supplement III, EPA/600/R-95/131, August 1995.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610 and AEL-Tucson holds Arizona certification no. AZ0609.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Data Qualifiers:

Listed below are the data qualifiers used in your analytical report to explain any analytical or quality control issues. You will find them noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

D1 Sample required dilution due to matrix.
S12 Surrogate recovery was low. Data reported per ADEQ policy 0154.000.

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CLIENT:	Pima County Flood Control
Project:	MHP-ERP/Monthly Quarterly
Lab Order:	06060831

CASE NARRATIVE

V1 CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

D1- Method 300 (Additional Comment):
Sample required dilution due to interference from a non-target analyte.

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Aerotech Environmental Laboratories
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Aerotech Environmental, I — Analytical Report

Date: *05-Jul-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Source Water
Lab Order:	06060831	**Tag Number:**	
Project:	MHP-ERP/Monthly Quarterly	**Collection Date:**	6/21/2006 9:05:00 AM
Lab ID:	06060831-01B	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP/MS METALS, TOTAL RECOVERABLE		**E200.8**				Analyst: **TD**
Antimony	< 0.0030	0.0030		mg/L	1	6/26/2006 5:38:36 PM
Arsenic	0.0056	0.0010		mg/L	1	6/26/2006 5:38:36 PM
Barium	0.071	0.0010		mg/L	1	6/26/2006 5:38:36 PM
Beryllium	< 0.0010	0.0010	V1	mg/L	1	6/26/2006 5:38:36 PM
Cadmium	< 0.0010	0.0010		mg/L	1	6/26/2006 5:38:36 PM
Chromium	0.0017	0.0010		mg/L	1	6/26/2006 5:38:36 PM
Lead	0.0020	0.0010		mg/L	1	6/26/2006 5:38:36 PM
Nickel	0.0046	0.0010		mg/L	1	6/26/2006 5:38:36 PM
Selenium	0.0033	0.0020		mg/L	1	6/26/2006 5:38:36 PM
Thallium	< 0.0010	0.0010		mg/L	1	6/26/2006 5:38:36 PM
MERCURY, TOTAL		**E245.1**				Analyst: **PC**
Mercury	< 0.00020	0.00020		mg/L	1	6/29/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory
(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Aerotech Environmental, I — Analytical Report

Date: *05-Jul-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Source Water
Lab Order:	06060831	**Tag Number:**	
Project:	MHP-ERP/Monthly Quarterly	**Collection Date:**	6/21/2006 9:05:00 AM
Lab ID:	06060831-01C	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: **LB**
Nitrogen, Nitrate/Nitrite Total	1.8	0.40		mg/L	1	6/29/2006 9:31:00 PM
NITROGEN, TOTAL KJELDAHL AS N		E351.4				Analyst: **AC**
Nitrogen, Total Kjeldahl	27	1.3		mg/L	1	6/29/2006
NITROGEN, TOTAL		CALC				Analyst: **AC**
Nitrogen, Total	29	1.7		mg/L	1	7/3/2006

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Aerotech Environmental, I — Analytical Report — Date: 05-Jul-06

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Source Water
Lab Order:	06060831	**Tag Number:**	
Project:	MEP-ERP/Monthly Quarterly	**Collection Date:**	6/21/2006 9:05:00 AM
Lab ID:	06060831-01D	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY GC/MS		**SW8260B**				Analyst: k m
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	6/27/2006
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	6/27/2006
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	6/27/2006
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	6/27/2006
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	6/27/2006
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	6/27/2006
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	6/27/2006
Benzene	< 1.0	1.0		µg/L	1	6/27/2006
Carbon tetrachloride	< 1.0	1.0		µg/L	1	6/27/2006
Chlorobenzene	< 1.0	1.0		µg/L	1	6/27/2006
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	6/27/2006
Ethylbenzene	< 1.0	1.0		µg/L	1	6/27/2006
Styrene	< 1.0	1.0		µg/L	1	6/27/2006
Tetrachloroethene	< 1.0	1.0		µg/L	1	6/27/2006
Toluene	< 1.0	1.0		µg/L	1	6/27/2006
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	6/27/2006
Trichloroethene	< 1.0	1.0		µg/L	1	6/27/2006
Trihalomethanes, Total	< 1.0	1.0		µg/L	1	6/27/2006
Vinyl chloride	< 1.0	1.0		µg/L	1	6/27/2006
Xylenes, Total	< 2.0	2.0		µg/L	1	6/27/2006
Surr: 4-Bromofluorobenzene	73.5	69.8-108		%REC	1	6/27/2006
Surr: Dibromofluoromethane	81.1	76.1-115		%REC	1	6/27/2006
Surr: Toluene-d8	80.3	74.9-110		%REC	1	6/27/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
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Aerotech Environmental, I — Analytical Report

Date: *05-Jul-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	06060831	**Tag Number:**	
Project:	MHP-ERP/Monthly Quarterly	**Collection Date:**	6/21/2006
Lab ID:	06060831-02B	**Matrix:**	DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP/MS METALS, TOTAL RECOVERABLE		**E200.8**				Analyst: **TD**
Antimony	< 0.0030	0.0030		mg/L	1	6/26/2006 5:42:38 PM
Arsenic	0.0020	0.0010		mg/L	1	6/26/2006 5:42:38 PM
Barium	0.17	0.0010		mg/L	1	6/26/2006 5:42:38 PM
Beryllium	< 0.0010	0.0010	V1	mg/L	1	6/26/2006 5:42:38 PM
Cadmium	< 0.0010	0.0010		mg/L	1	6/26/2006 5:42:38 PM
Chromium	< 0.0010	0.0010		mg/L	1	6/26/2006 5:42:38 PM
Lead	0.0012	0.0010		mg/L	1	6/26/2006 5:42:38 PM
Nickel	0.0036	0.0010		mg/L	1	6/26/2006 5:42:38 PM
Selenium	0.0024	0.0020		mg/L	1	6/26/2006 5:42:38 PM
Thallium	< 0.0010	0.0010		mg/L	1	6/26/2006 5:42:38 PM
MERCURY, TOTAL		**E245.1**				Analyst: **PC**
Mercury	< 0.00020	0.00020		mg/L	1	6/29/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
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Aerotech Environmental, I — Analytical Report

Date: 05-Jul-06

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	06060831	**Tag Number:**	
Project:	MHP-ERP/Monthly Quarterly	**Collection Date:**	6/21/2006
Lab ID:	06060831-02C	**Matrix:**	DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: LB
Nitrogen, Nitrate/Nitrite Total	3.2	0.60	D1	mg/L	2	7/1/2006 12:42:00 AM
NITROGEN, TOTAL KJELDAHL AS N		E351.4				Analyst: AC
Nitrogen, Total Kjeldahl	< 1.3	1.3		mg/L	1	6/29/2006
NITROGEN, TOTAL		CALC				Analyst: AC
Nitrogen, Total	3.2	1.7		mg/L	1	7/5/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
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Aerotech Environmental, I — Analytical Report

Date: 05-Jul-06

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	06060831	**Tag Number:**	
Project:	MHP-ERP/Monthly Quarterly	**Collection Date:**	6/21/2006
Lab ID:	06060831-02D	**Matrix:**	DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY GC/MS		**SW8260B**				Analyst: k m
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	6/27/2006
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	6/27/2006
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	6/27/2006
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	6/27/2006
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	6/27/2006
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	6/27/2006
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	6/27/2006
Benzene	< 1.0	1.0		µg/L	1	6/27/2006
Carbon tetrachloride	< 1.0	1.0		µg/L	1	6/27/2006
Chlorobenzene	< 1.0	1.0		µg/L	1	6/27/2006
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	6/27/2006
Ethylbenzene	< 1.0	1.0		µg/L	1	6/27/2006
Styrene	< 1.0	1.0		µg/L	1	6/27/2006
Tetrachloroethene	< 1.0	1.0		µg/L	1	6/27/2006
Toluene	< 1.0	1.0		µg/L	1	6/27/2006
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	6/27/2006
Trichloroethene	< 1.0	1.0		µg/L	1	6/27/2006
Trihalomethanes, Total	< 1.0	1.0		µg/L	1	6/27/2006
Vinyl chloride	< 1.0	1.0		µg/L	1	6/27/2006
Xylenes, Total	< 2.0	2.0		µg/L	1	6/27/2006
Surr: 4-Bromofluorobenzene	74.9	69.8-108		%REC	1	6/27/2006
Surr: Dibromofluoromethane	82.3	76.1-115		%REC	1	6/27/2006
Surr: Toluene-d8	78.4	74.9-110		%REC	1	6/27/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
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Aerotech Environmental, I — Analytical Report

Date: 03-Jul-06

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Trip Blank
Lab Order:	06060831	**Tag Number:**	
Project:	MHP-ERP/Monthly Quarterly	**Collection Date:**	6/21/2006
Lab ID:	06060831-03D	**Matrix:**	TRIP BLANK

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY GC/MS		**SW8260B**				Analyst: k m
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	6/27/2006
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	6/27/2006
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	6/27/2006
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	6/27/2006
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	6/27/2006
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	6/27/2006
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	6/27/2006
Benzene	< 1.0	1.0		µg/L	1	6/27/2006
Carbon tetrachloride	< 1.0	1.0		µg/L	1	6/27/2006
Chlorobenzene	< 1.0	1.0		µg/L	1	6/27/2006
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	6/27/2006
Ethylbenzene	< 1.0	1.0		µg/L	1	6/27/2006
Styrene	< 1.0	1.0		µg/L	1	6/27/2006
Tetrachloroethene	< 1.0	1.0		µg/L	1	6/27/2006
Toluene	< 1.0	1.0		µg/L	1	6/27/2006
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	6/27/2006
Trichloroethene	< 1.0	1.0		µg/L	1	6/27/2006
Trihalomethanes, Total	< 1.0	1.0		µg/L	1	6/27/2006
Vinyl chloride	< 1.0	1.0		µg/L	1	6/27/2006
Xylenes, Total	< 2.0	2.0		µg/L	1	6/27/2006
Surr: 4-Bromofluorobenzene	72.5	69.8-108		%REC	1	6/27/2006
Surr: Dibromofluoromethane	83.0	76.1-115		%REC	1	6/27/2006
Surr: Toluene-d8	79.2	74.9-110		%REC	1	6/27/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
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Aerotech Environmental, Inc.

03-Jul-06

Lab Order: 0606083I
Client: Pima County Flood Control
Project: MHP-ERP/Monthly Quarterly

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0606083I-01B	Source Water	6/21/2006 9:00:00 AM	Waste Water	ICP/MS METALS, TOTAL RECOVERABLE		6/22/2006 6:01:31 PM	6/26/2006 5:38:36 PM
0606083I-01C				MERCURY IN WATERS		6/29/2006 9:00:00 AM	6/29/2006
				ANIONS by ION CHROMATOGRAPHY			6/29/2006 9:31:00 PM
				TOTAL KJELDAHL NITROGEN			6/29/2006
				Total Nitrogen (Calculated)			3/5/2006
0606083I-01D				VOLATILES by GC/MS			6/27/2006
0606083I-02B	RF-1	6/21/2006	Drinking Water	ICP/MS METALS, TOTAL RECOVERABLE		6/22/2006 6:01:31 PM	6/26/2006 5:42:58 PM
0606083I-02C				MERCURY IN WATERS		6/29/2006 9:00:00 AM	6/29/2006
				ANIONS by ION CHROMATOGRAPHY			7/1/2006 12:42:00 AM
				TOTAL KJELDAHL NITROGEN			6/29/2006
				Total Nitrogen (Calculated)			3/5/2006
0606083I-02D				VOLATILES by GC/MS			6/27/2006
0606083I-03D	Trip Blank		Trip Blank	VOLATILES by GC/MS			6/27/2006

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■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

CLIENT: Pima County Flood Control
Work Order: 060603I31
Project: MHP-ERP/Monthly Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: MB-26056	SampType: MBLK	TestCode: 200.8	Units: mg/L	Prep Date: 6/22/2006	RunNo: 75665
Client ID:	Batch ID: 26056	TestNo: E200.8		Analysis Date: 6/26/2006	SeqNo: 899293

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	<0.0030	0.0030									
Arsenic	<0.0010	0.0010									
Barium	<0.0010	0.0010									
Beryllium	<0.0010	0.0010									
Cadmium	<0.0010	0.0010									V1
Chromium	<0.0010	0.0010									
Lead	<0.0010	0.0010									
Nickel	<0.0010	0.0010									
Selenium	<0.0020	0.0020									
Thallium	<0.0010	0.0010									

Sample ID: LCS-26056	SampType: LCS	TestCode: 200.8	Units: mg/L	Prep Date: 6/22/2006	RunNo: 75665
Client ID:	Batch ID: 26056	TestNo: E200.8		Analysis Date: 6/26/2006	SeqNo: 899291

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1040	0.0030	0.1	0	104	85	115				
Arsenic	0.1056	0.0010	0.1	0	106	85	115				
Barium	0.1104	0.0010	0.1	0	110	85	115				
Cadmium	0.1081	0.0010	0.1	0	108	85	115				
Chromium	0.1064	0.0010	0.1	0	106	85	115				
Lead	0.1052	0.0010	0.1	0	105	85	115				
Nickel	0.1075	0.0010	0.1	0	108	85	115				
Selenium	0.1090	0.0020	0.1	0	109	85	115				
Thallium	0.09918	0.0010	0.1	0	99.2	85	115				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06060831
Project: MHP-ERP/Monthly Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: LCS-26056	SampType: LCS	TestCode: 200.8	Units: mg/L	Prep Date: 6/22/2006	RunNo: 75777
Client ID:	Batch ID: 26056	TestNo: E200.8		Analysis Date: 6/26/2006	SeqNo: 900444

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.1095	0.0010	0.1	0	110	85	115				V1

Sample ID: LCSD-26056	SampType: LCSD	TestCode: 200.8	Units: mg/L	Prep Date: 6/22/2006	RunNo: 75665
Client ID:	Batch ID: 26056	TestNo: E200.8		Analysis Date: 6/26/2006	SeqNo: 899292

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1085	0.0030	0.1	0	108	85	115	0.1040	4.15	20	
Arsenic	0.1051	0.0010	0.1	0	105	85	115	0.1056	0.533	20	
Barium	0.1115	0.0010	0.1	0	112	85	115	0.1104	1.01	20	
Beryllium	0.1130	0.0010	0.1	0	113	85	115	0.1159	2.52	20	V1
Cadmium	0.1101	0.0010	0.1	0	110	85	115	0.1081	1.82	20	
Chromium	0.1054	0.0010	0.1	0	105	85	115	0.1064	0.969	20	
Lead	0.1044	0.0010	0.1	0	104	85	115	0.1052	0.742	20	
Nickel	0.1080	0.0010	0.1	0	108	85	115	0.1075	0.453	20	
Selenium	0.1072	0.0020	0.1	0	107	85	115	0.1095	2.07	20	
Thallium	0.09990	0.0010	0.1	0	99.9	85	115	0.09818	0.725	20	

Sample ID: LCSD-26056	SampType: LCSD	TestCode: 200.8	Units: mg/L	Prep Date: 6/22/2006	RunNo: 75777
Client ID:	Batch ID: 26056	TestNo: E200.8		Analysis Date: 6/26/2006	SeqNo: 900445

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.1100	0.0010	0.1	0	110	85	115	0.1095	0.457	20	V1

Sample ID: 06060715-03A MS	SampType: MS	TestCode: 200.8	Units: mg/L	Prep Date: 6/22/2006	RunNo: 75665
Client ID:	Batch ID: 26056	TestNo: E200.8		Analysis Date: 6/26/2006	SeqNo: 899284

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1156	0.0030	0.1	0	116	70	130				

Qualifiers:
- E: Value above quantitation range
- ND: Not Detected at the Reporting Limit
- H: Holding times for preparation or analysis exceeded
- R: RPD outside accepted recovery limits
- J: Analyte detected below quantitation limits
- S: Spike Recovery outside accepted recovery limits

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■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

CLIENT: Pima County Flood Control
Work Order: 06060831
Project: MIDP-ERP/Monthly Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: 06060715-63A MS | SampType: MS | TestCode: 200.8 | Units: mg/L | Prep Date: 6/22/2006 | RunNo: 75665
Client ID: | Batch ID: 26056 | TestNo: E200.8 | Analysis Date: 6/25/2006 | SeqNo: 899284

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.1319	0.0010	0.1	0.02290	109	70	130				
Barium	0.2392	0.0010	0.1	0.1279	111	70	130				
Beryllium	0.1202	0.0010	0.1	0	120	70	130				
Cadmium	0.1031	0.0010	0.1	0	103	70	130				V1
Chromium	0.1372	0.0010	0.1	0.03161	106	70	130				
Lead	0.09501	0.0010	0.1	0	95.0	70	130				
Nickel	0.1016	0.0010	0.1	0.001796	99.8	70	130				
Selenium	0.1090	0.0020	0.1	0.008159	103	70	130				
Thallium	0.09166	0.0010	0.1	0	91.7	70	130				

Sample ID: 06060715-63A MSD | SampType: MSD | TestCode: 200.8 | Units: mg/L | Prep Date: 6/22/2006 | RunNo: 75665
Client ID: | Batch ID: 26056 | TestNo: E200.8 | Analysis Date: 6/25/2006 | SeqNo: 899285

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1152	0.0030	0.1	0	115	70	130	0.1156	0.348	15	
Arsenic	0.1335	0.0010	0.1	0.02290	111	70	130	0.1319	1.21	15	
Barium	0.2360	0.0010	0.1	0.1279	108	70	130	0.2392	1.32	15	
Beryllium	0.1229	0.0010	0.1	0	123	70	130	0.1202	2.26	15	V1
Cadmium	0.1035	0.0010	0.1	0	104	70	130	0.1031	0.372	15	
Chromium	0.1390	0.0010	0.1	0.03161	107	70	130	0.1372	1.31	15	
Lead	0.09685	0.0010	0.1	0	96.9	70	130	0.09501	1.92	15	
Nickel	0.1047	0.0010	0.1	0.001796	103	70	130	0.1016	3.04	15	
Selenium	0.1123	0.0020	0.1	0.008159	106	70	130	0.1090	2.99	15	
Thallium	0.09287	0.0010	0.1	0	92.9	70	130	0.09166	1.32	15	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06060831
Project: MSP-ERP/Monthly Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_W

Sample ID: MB-26083	SampType: MBLK	TestCode: 245.1_W	Units: mg/L	Prep Date: 6/29/2006	RunNo: 75780
Client ID:	Batch ID: 26083	TestNo: E245.1		Analysis Date: 6/29/2006	SeqNo: 909447

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	<0.00020	0.00020									

Sample ID: LCS-26083	SampType: LCS	TestCode: 245.1_W	Units: mg/L	Prep Date: 6/29/2006	RunNo: 75780
Client ID:	Batch ID: 26083	TestNo: E245.1		Analysis Date: 6/29/2006	SeqNo: 909448

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009730	0.00020	0.01	0	97.3	85	115				

Sample ID: LCSD-26083	SampType: LCSD	TestCode: 245.1_W	Units: mg/L	Prep Date: 6/29/2006	RunNo: 75780
Client ID:	Batch ID: 26083	TestNo: E245.1		Analysis Date: 6/29/2006	SeqNo: 909449

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.010100	0.00020	0.01	0	101	85	115	0.009730	3.73	20	

Sample ID: 06060696-02BMS	SampType: MS	TestCode: 245.1_W	Units: mg/L	Prep Date: 6/29/2006	RunNo: 75780
Client ID:	Batch ID: 26083	TestNo: E245.1		Analysis Date: 6/29/2006	SeqNo: 909451

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009580	0.00020	0.01	0	95.8	88.4	122				

Sample ID: 06060696-02BMSD	SampType: MSD	TestCode: 245.1_W	Units: mg/L	Prep Date: 6/29/2006	RunNo: 75780
Client ID:	Batch ID: 26083	TestNo: E245.1		Analysis Date: 6/29/2006	SeqNo: 909452

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009820	0.00020	0.01	0	98.2	88.4	122	0.009580	2.47	20	

Qualifiers:
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- S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06060831
Project: MHP-ERP/Monthly Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MB-R75843	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:		RunNo: 75843
Client ID:	Batch ID: R75843	TestNo: E300		Analysis Date: 6/29/2006		SeqNo: 901134

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	<0.40	0.40									

Sample ID: LCS-R75843	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:		RunNo: 75843
Client ID:	Batch ID: R75843	TestNo: E300		Analysis Date: 6/29/2006		SeqNo: 901135

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.483	0.40	8	0	93.5	90	110				

Sample ID: LCSD-R75843	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:		RunNo: 75843
Client ID:	Batch ID: R75843	TestNo: E300		Analysis Date: 6/29/2006		SeqNo: 901146

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.506	0.40	8	0	93.8	90	110	7.483	0.307	20	

Sample ID: 06061021-02AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:		RunNo: 75843
Client ID:	Batch ID: R75843	TestNo: E300		Analysis Date: 6/29/2006		SeqNo: 901144

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	11.70	0.40	8	4.098	95.0	80	120				

Sample ID: 06061021-02AMSD	SampType: MSD	TestCode: 300_W	Units: mg/L	Prep Date:		RunNo: 75843
Client ID:	Batch ID: R75843	TestNo: E300		Analysis Date: 6/29/2006		SeqNo: 901145

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	11.64	0.40	8	4.098	94.3	80	120	11.70	0.489	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06060831
Project: MHP-ERP/Monthly Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: MB-R75562	SampType: MBLK	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 75562
Client ID:	Batch ID: R75562	TestNo: SW8260B		Analysis Date: 6/27/2006	SeqNo: 899428

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	<1.0	1.0									
1,1,2-Trichloroethane	<1.0	1.0									
1,1-Dichloroethene	<1.0	1.0									
1,2-Dichlorobenzene	<1.0	1.0									
1,2-Dichloroethane	<1.0	1.0									
1,2-Dichloropropane	<1.0	1.0									
1,4-Dichlorobenzene	<1.0	1.0									
Benzene	<1.0	1.0									
Carbon tetrachloride	<1.0	1.0									
Chlorobenzene	<1.0	1.0									
cis-1,2-Dichloroethene	<1.0	1.0									
Ethylbenzene	<1.0	1.0									
Styrene	<1.0	1.0									
Tetrachloroethene	<1.0	1.0									
Toluene	<1.0	1.0									
trans-1,2-Dichloroethene	<1.0	1.0									
Trichloroethene	<1.0	1.0									
Vinyl chloride	<1.0	1.0									
Surr: 4-Bromofluorobenzene	18.17	0	25	0	72.7	70.7	108				
Surr: Dibromofluoromethane	20.48	0	25	0	81.9	77.1	112				
Surr: Toluene-d8	19.90	0	25	0	79.6	75.8	109				

Sample ID: LCS-R75562	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 75562
Client ID:	Batch ID: R75562	TestNo: SW8260B		Analysis Date: 6/27/2006	SeqNo: 899429

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	25.66	1.0	25	0	103	75.9	129				
1,1,2-Trichloroethane	26.83	1.0	25	0	107	74.7	123				
1,1-Dichloroethene	26.85	1.0	25	0	107	71.2	127				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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Aerotech Environmental Laboratories

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CLIENT: Pima County Flood Control
Work Order: 06060831
Project: MHP-ERP/Monthly Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: LCS-R75562 | SampType: LCS | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 75562
Client ID: | Batch ID: R75562 | TestNo: SW8260B | Analysis Date: 6/27/2006 | SeqNo: 899429

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichlorobenzene	21.62	1.0	25	0	86.5	71.8	121				
1,2-Dichloroethane	25.91	1.0	25	0	104	70.1	136				
1,2-Dichloropropane	25.69	1.0	25	0	103	76.4	122				
1,4-Dichlorobenzene	22.09	1.0	25	0	88.4	71	120				
Benzene	25.78	1.0	25	0	103	79.4	122				
Carbon tetrachloride	26.47	1.0	25	0	106	75.9	129				
Chlorobenzene	22.98	1.0	25	0	91.9	73.3	121				
cis-1,2-Dichloroethene	26.35	1.0	25	0	105	75.9	123				
Ethylbenzene	23.11	1.0	25	0	92.4	78.2	119				
Styrene	23.57	1.0	25	0	94.3	73.6	127				
Tetrachloroethene	26.34	1.0	25	0	105	72.4	124				
Toluene	25.46	1.0	25	0	102	83	115				
trans-1,2-Dichloroethene	26.98	1.0	25	0	108	73.6	125				
Trichloroethene	25.47	1.0	25	0	102	76.5	120				
Vinyl chloride	26.64	1.0	25	0	107	69.8	137				
Surr: 4-Bromofluorobenzene	17.98	0	25	0	71.9	70.7	108				
Surr: Dibromofluoromethane	19.88	0	25	0	79.5	77.1	112				
Surr: Toluene-d8	19.91	0	25	0	79.6	75.8	109				

Sample ID: LCSD-R75562 | SampType: LCSD | TestCode: 8260_W | Units: µg/L | Prep Date: | RunNo: 75562
Client ID: | Batch ID: R75562 | TestNo: SW8260B | Analysis Date: 6/27/2006 | SeqNo: 899430

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	27.29	1.0	25	0	109	75.9	129	25.66	6.16	25	
1,1,2-Trichloroethane	26.65	1.0	25	0	107	74.7	123	26.83	0.673	25	
1,1-Dichloroethene	27.58	1.0	25	0	110	71.2	127	26.85	2.68	25	
1,2-Dichlorobenzene	22.61	1.0	25	0	90.4	71.8	121	21.62	4.48	25	
1,2-Dichloroethane	26.62	1.0	25	0	106	70.1	136	25.91	2.70	25	
1,2-Dichloropropane	26.34	1.0	25	0	105	76.4	122	25.69	2.50	25	

Qualifiers:
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S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06060831
Project: MHP-ERP/Monthly Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: LCSD-R75562 SampType: LCSD TestCode: 8260_W Units: µg/L Prep Date: RunNo: 75562
Client ID: Batch ID: R75562 TestNo: SW8260B Analysis Date: 6/27/2006 SeqNo: 899439

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	22.84	1.0	25	0	91.8	75	120	22.09	3.79	25	
Benzene	26.84	1.0	25	0	107	78.4	122	25.78	4.03	25	
Carbon tetrachloride	27.65	1.0	25	0	111	75.9	129	26.47	4.36	25	
Chlorobenzene	23.65	1.0	25	0	94.6	73.3	121	22.98	2.87	25	
cis-1,2-Dichloroethene	27.06	1.0	25	0	108	75.9	123	26.35	2.66	25	
Ethylbenzene	24.07	1.0	25	0	96.3	78.2	119	23.11	4.07	25	
Styrene	24.23	1.0	25	0	96.9	73.6	127	23.57	2.76	25	
Tetrachloroethene	25.65	1.0	25	0	107	72.4	124	26.34	1.17	25	
Toluene	25.86	1.0	25	0	103	83	115	25.46	1.56	25	
trans-1,2-Dichloroethene	27.93	1.0	25	0	112	73.6	125	26.98	3.48	25	
Trichloroethene	25.74	1.0	25	0	103	76.5	120	25.47	1.05	25	
Vinyl chloride	27.89	1.0	25	0	112	69.8	137	26.64	4.55	25	
Surr: 4-Bromofluorobenzene	17.97	0	25	0	71.9	70.7	108	17.98	0	0	
Surr: Dibromofluoromethane	21.14	0	25	0	84.6	77.1	112	19.68	0	0	
Surr: Toluene-d8	19.64	0	25	0	78.6	75.8	109	19.91	0	0	

Sample ID: 06060831-01D MS SampType: MS TestCode: 8260_W Units: µg/L Prep Date: RunNo: 75562
Client ID: Source Water Batch ID: R75562 TestNo: SW8260B Analysis Date: 6/27/2006 SeqNo: 899431

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	24.38	1.0	25	0	97.5	75.8	130				
1,1,2-Trichloroethane	25.73	1.0	25	0	103	72.5	130				
1,1-Dichloroethene	27.82	1.0	25	0	111	70.8	130				
1,2-Dichlorobenzene	21.49	1.0	25	0	86.0	68.7	122				
1,2-Dichloroethane	25.19	1.0	25	0	101	72.4	131				
1,2-Dichloropropane	24.83	1.0	25	0	99.3	74.7	121				
1,4-Dichlorobenzene	21.64	1.0	25	0	86.6	67	122				
Benzene	25.66	1.0	25	0	103	79.9	121				
Carbon tetrachloride	27.84	1.0	25	0	111	75.1	131				

Qualifiers: E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06060831
Project: MHP-ERP/Monthly Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 06060831-01D MS	SampType: MS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 75562
Client ID: Source Water	Batch ID: R75562	TestNo: SW8260B		Analysis Date: 6/27/2006	SeqNo: 899431

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	22.74	1.0	25	0	91.0	71.6	119				
cis-1,2-Dichloroethene	25.86	1.0	25	0	103	74	124				
Ethylbenzene	23.11	1.0	25	0	92.4	79	116				
Styrene	17.62	1.0	25	0	70.5	56.1	131				
Tetrachloroethene	25.96	1.0	25	0	104	73.5	123				
Toluene	25.09	1.0	25	0	100	81.6	116				
trans-1,2-Dichloroethene	27.37	1.0	25	0	109	72.5	127				
Trichloroethene	25.34	1.0	25	0	101	72.1	123				
Vinyl chloride	28.69	1.0	25	0	115	70	140				
Surr: 4-Bromofluorobenzene	18.02	0	25	0	72.1	69.8	106				
Surr: Dibromofluoromethane	18.36	0	25	0	73.4	76.1	115				
Surr: Toluene-d8	20.13	0	25	0	80.5	74.9	110				S12

Sample ID: 06060831-01D MSD	SampType: MSD	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 75562
Client ID: Source Water	Batch ID: R75562	TestNo: SW8260B		Analysis Date: 6/27/2006	SeqNo: 899432

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	25.18	1.0	25	0	101	75.8	130	24.38	3.23	25	
1,1,2-Trichloroethane	25.62	1.0	25	0	102	72.5	120	25.73	0.426	25	
1,1-Dichloroethene	26.46	1.0	25	0	106	70.8	130	27.82	5.01	25	
1,2-Dichlorobenzene	20.88	1.0	25	0	83.5	68.7	122	21.49	2.88	25	
1,2-Dichloroethane	24.72	1.0	25	0	98.9	72.4	131	25.19	1.88	25	
1,2-Dichloropropane	24.53	1.0	25	0	98.1	74.7	121	24.83	1.22	25	
1,4-Dichlorobenzene	21.00	1.0	25	0	84.0	67	122	21.64	3.00	25	
Benzene	24.76	1.0	25	0	99.0	79.9	121	25.66	3.57	25	
Carbon tetrachloride	25.69	1.0	25	0	103	75.1	131	27.84	8.03	25	
Chlorobenzene	21.86	1.0	25	0	86.6	71.6	119	22.74	4.86	25	
cis-1,2-Dichloroethene	24.73	1.0	25	0	98.9	74	124	25.86	4.47	25	
Ethylbenzene	21.90	1.0	25	0	87.6	79	116	23.11	5.38	25	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4640 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6102 www.aerotechlabs.com
■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

CLIENT: Pima County Flood Control
Work Order: 06060831
Project: MEP-ERP/Monthly Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 06060831-01D MSD SampType: MSD TestCode: 8260_W Units: µg/L Prep Date: RunNo: 75562
Client ID: Source Water Batch ID: R75562 TestNo: SW8260B Analysis Date: 6/27/2006 SeqNo: 899432

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	17.08	1.0	25	0	68.3	56.1	131	17.62	3.11	25	
Tetrachloroethene	24.55	1.0	25	0	98.2	73.5	123	25.96	5.58	25	
Toluene	23.89	1.0	25	0	95.6	81.6	115	25.09	4.90	25	
trans-1,2-Dichloroethene	25.97	1.0	25	0	104	72.5	127	27.37	5.25	25	
Trichloroethene	24.05	1.0	25	0	96.2	72.1	123	25.34	5.22	25	
Vinyl chloride	27.44	1.0	25	0	110	70	140	28.63	4.24	25	
Surr: 4-Bromofluorobenzene	18.21	0	25	0	72.8	69.5	109	18.02	0	0	
Surr: Dibromofluoromethane	20.60	0	25	0	82.4	76.1	115	10.11	0	0	
Surr: Toluene-d8	20.10	0	25	0	80.4	74.9	110	20.13	0	0	

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

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■ Tucson Facility: 4455 S. Park Ave. Ste. 109 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

CLIENT: Pima County Flood Control
Work Order: 06060831
Project: MHP-ERP/Monthly Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R75790	SampType: MBLK	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 75790
Client ID:	Batch ID: R75790	TestNo: E351.4		Analysis Date: 6/29/2006	SeqNo: 900579

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	<1.3	1.3									

Sample ID: LCS-R75790	SampType: LCS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 75790
Client ID:	Batch ID: R75790	TestNo: E351.4		Analysis Date: 6/29/2006	SeqNo: 900602

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	26.95	1.3	25	0	108	85	115				

Sample ID: LCSD-R75790	SampType: LCSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 75790
Client ID:	Batch ID: R75790	TestNo: E351.4		Analysis Date: 6/29/2006	SeqNo: 900603

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	27.32	1.3	25	0	109	85	115	26.95	1.38	20	

Sample ID: 06060733-02CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 75790
Client ID:	Batch ID: R75790	TestNo: E351.4		Analysis Date: 6/29/2006	SeqNo: 900581

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	23.65	1.3	25	1.525	88.5	70	130				

Sample ID: 06060922-01CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 75790
Client ID:	Batch ID: R75790	TestNo: E351.4		Analysis Date: 6/29/2006	SeqNo: 900593

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	56.85	1.3	25	26.70	121	70	130				

Qualifiers:
- E: Value above quantitation range
- ND: Not Detected at the Reporting Limit
- H: Holding times for preparation or analysis exceeded
- R: RPD outside accepted recovery limits
- J: Analyte detected below quantitation limits
- S: Spike Recovery outside accepted recovery limits

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■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

CLIENT: Pima County Flood Control
Work Order: 06060831
Project: MHP-ERP/Monthly Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: 06060733-02CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 75798
Client ID:	Batch ID: R75798	TestNo: E351.4		Analysis Date: 6/29/2006	SeqNo: 999582

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	24.10	1.3	25	1.525	90.3	70	130	23.65	1.88	20	

Sample ID: 06060922-01CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 75798
Client ID:	Batch ID: R75798	TestNo: E351.4		Analysis Date: 6/29/2006	SeqNo: 999584

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	51.82	1.3	25	26.70	100	70	130	56.65	9.25	20	

Qualifiers:
- E: Value above quantitation range
- ND: Not Detected at the Reporting Limit
- H: Holding times for preparation or analysis exceeded
- R: RPD outside accepted recovery limits
- J: Analyte detected below quantitation limits
- S: Spike Recovery outside accepted recovery limits

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Aerotech Environmental Laboratories Sample Receipt Checklist Project Checked By:_____

Laboratory Number: 06-06-0831	Checklist completed by: James Gravlin
Client Name: Pima County Flood Control District	Signature/Date 6/22/06
Matrix: S W D.W. Carrier Name: 32-Exp.	Date/Time Rec'd: 6/22/06 0911:08 By: R.F.

Temperature of Samples?	.5 °C	Circle one: Blue Ice	Wet Ice Not Present

	Yes	No*	Not Present
Shipping container/cooler in good condition?	✓		
Custody seals intact on shipping container/cooler?			✓
Custody seals intact on sample containers?			✓
Chain of Custody present and relinquished/received properly?	✓		
Chain of Custody agrees with sample labels?	✓		
Samples in proper containers/bottles?	✓		
Sample containers intact?	✓		
All samples received within holding time?	✓		**See Comment about Chlorine and pH
Is there sufficient sample volume to perform the tests?	✓		
40mL vials for volatiles & SOCs received with zero headspace?	✓		

Soil Containers:
Brass Sleeve____
Glass Jar____
Methanol____
Plastic Bag____
Encore Samplers____

Total number of bottles received:	11	BH sample media:	N/A
If applicable, how many sample bottles were shipped from AEL-Tucson?	11		N/A

Number of containers received by preservative and by sample number: (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General															
B-HNO3	1	1													
C-H2SO4	1	1													
D-HCl	3	3	1												
E-Na2S2O3															
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? Yes ✓ No N/A

Preservative & pH		pH of samples upon receipt	If pH requires adjustment, list sample number, and reagent ID. number
Metals	<2	∠2	
Nutrients	<2	∠2	
Total Phenols	<2		
413 (O&G)	<2		
418 (TPH)	<2		
Cyanide	>12		
Sulfide	>9		

**Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.1.6. Continue on back if additional space is needed.*

***The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.*

Comments:

Corrective Action:

Aerotech Environmental Laboratories

an affiliate of Severn Trent Laboratories, Inc.

[ ] [illegible] Lab – [illegible] 17th Street, Tempe, AZ 85281 (480) 967-1310 FAX (480) 967-1019

[ ] North Phoenix – 1001 W. Knudsen, Phoenix, AZ 85027 (623) 780-4700 FAX (623) 780-2934

[ ] Tucson – 4455 S. Park Ave, Suite 110, Tucson, AZ 85714 (520) 807-3801 FAX (520) 807-3803

www.poilabs.com or call toll-free 1-800-7PALABS (1-888-772-5227)

Quote# K2311

Lab Number: 06-06-0831

Customer Number: 1378913		Page 1 of 1	
Customer:	PIMA COUNTY FLOOD CONTROL DISTRICT	Sampler:	David Scalero
Address:	201 N. STONE AVE. 4TH FLOOR	Project Name:	MHP-ERP / Monthly-Qrtly
City, State, Zip:	Tucson AZ 85701	Project Number:	
Contact:	David Scalero	P.O. Number:	
Phone:	(520) 740-6359	Fax: (520) 740-6749	Fax Results: Y (N)
E-Mail Address:	david.scalero@dot.pima.gov		E-Mail Results: (Y) N

Sample Type Codes:
DW – Drinking Water; A – Air; WW – Waste Water; S – Soil; HW – Hazardous Waste; Other: _____

Sample Receipt

Temperature: 1.5 °C

Custody Seals: Yes ____ No X

Custody Seals Intact: Yes ____ No N/A

Total # of Containers: 11

Turn Around Request

____ 24 Hours ____ 48 Hours

____ 72 Hours

____ 5 Working Days

X Standard 10 Working Days

Subject to scheduling & availability (surcharges apply)

Analyses Requested

Lab #	Sample Identification	Date	Time	Type	Nitrate/Nitrite as N	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	Metals (200.8) - As, Ba, Cd, Cr, Pb + Sb, Be, Ni, Tl, Se	Mercury	8260B VOCs										# of containers
1	Source Water	6-21-06	905	WW	1	1	1	1	X1	1	3									5
2	MP-1	6-21-06	1100	DW	1	1	1	1	1	1	3									5
3	Trip Blank																			1
									X2											
									2											

Instructions / Special Requirements:

Date:	Time:	Samples Relinquished By:	Received By:
6-21-06	1225		
6/21/06	1630		
6/22/06	1109		

Analysis performed is subject to the Terms & Conditions; available at www.aerotechlabs.com or call 888.722.5227 to request a copy.

Aerotech Environmental Laboratories
a division of Aerotech Laboratories, Inc.

PC RFCD
AUG 07 2006
3:00

Wednesday, August 02, 2006

David Scalero
Pima County Flood Control
201 N. Stone, 4th Floor
Tucson, AZ 85701
TEL: (520) 205-8353
FAX: (520) 205-8360

RE: MHP-ERP/Monthly

Order No.: 06070610

Dear David Scalero:

Aerotech Environmental, Inc. received 1 sample(s) on 7/18/2006 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

Korky Vault
Service Center Manager

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental, Inc.

Date: *02-Aug-06*

CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly
Lab Order: 06070610

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
06070610-01C	Source Water MHPERP		7/18/2006 9:50:00 AM	7/18/2006

ain Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
ucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

Aerotech Environmental Laboratories
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Aerotech Environmental. Inc. **Date:** *02-Aug-06*

CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly
Lab Order: 06070616

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.

Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.

Methods for the Determination of Organic Compounds in Drinking Water: Supplement III, EPA/600/R-95/131, August 1995.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.

NIOSH Manual of Analytical Methods, Fourth Edition, 1994.

Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610 and AEL-Tucson holds Arizona certification no. AZ0609.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:

All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Data Qualifiers:

Listed below are the data qualifiers used in your analytical report to explain any analytical or quality control issues. You will find them noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

D1 Sample required dilution due to matrix.
Sample required dilution due to interference from a non-target analyte.

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CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly
Lab Order: 0607061O

CASE NARRATIVE

The sample selected as the duplicate and matrix spike contained high concentrations of chloride and/or sulfate. The analyte concentration in the sample is disproportionate to the spike level and it was not practical to analyze the sample at a dilution, as the spike would be diluted out. The LCS/LCSD were recovered acceptably demonstrating that the analytical process was in control.
M7 Matrix spike recovery was low. Data reported per ADEQ policy 0154.000.

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...ication Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.651.4802 Fax: 623.780.7695

Aerotech Environmental Laboratories

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Aerotech Environmental, I **Analytical Report** **Date:** *02-Aug-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	Source Water MHPERP
Lab Order:	06070610	**Tag Number:**	
Project:	MHP-ERP/Monthly	**Collection Date:**	7/18/2006 9:50:00 AM
Lab ID:	06070610-01C	**Matrix:**	WASTE WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **LB**
Nitrogen, Nitrate/Nitrite Total	3.9	0.80	D1	mg/L	2	7/31/2006 10:42:00 PM
NITROGEN, TOTAL KJELDAHL AS N		**E351.4**				Analyst: **AT**
Nitrogen, Total Kjeldahl	22	1.3		mg/L	1	7/28/2006
NITROGEN, TOTAL		**CALC**				Analyst: **LMc**
Nitrogen, Total	26	1.7		mg/L	1	8/1/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aerotechlabs.com
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Aerotech Environmental, Inc.

02-Aug-06

Lab Order: 0607061O
Client: Pima County Flood Control
Project: MHP-ERP/Monthly

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0607061O-01C	Source Water MHPERP	7/18/2006 9:50:00 AM	Waste Water	ANIONS by ION CHROMATOGRAPHY			7/31/2006 10:42:00 PM
				TOTAL KJELDAHL NITROGEN			7/28/2006
				Total Nitrogen (Calculated)			8/1/2006

Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
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Aerotech Environmental, Inc.

Date: 02-Aug-06

CLIENT: Pima County Flood Control
Work Order: 0607061O
Project: MHP-ERP/Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MB-R77029	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 77029
Client ID:	Batch ID: R77029	TestNo: E300		Analysis Date: 7/31/2006	SeqNo: 915740

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	<0.40	0.40									

Sample ID: LCS-R77029	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 77029
Client ID:	Batch ID: R77029	TestNo: E300		Analysis Date: 7/31/2006	SeqNo: 915741

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.340	0.40	8	0	91.8	90	110				

Sample ID: LCSD-R77029	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 77029
Client ID:	Batch ID: R77029	TestNo: E300		Analysis Date: 8/1/2006	SeqNo: 915752

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.360	0.40	8	0	92.0	90	110	7.340	0.272	20	

Sample ID: 0607061O-06AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 77029
Client ID:	Batch ID: R77029	TestNo: E300		Analysis Date: 7/31/2006	SeqNo: 915750

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	16.54	0.80	16	5.160	71.1	80	120				MT

Sample ID: 0607061O-06AMSD	SampType: MSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 77029
Client ID:	Batch ID: R77029	TestNo: E300		Analysis Date: 8/1/2006	SeqNo: 915751

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	18.40	0.80	16	5.160	82.8	80	120	16.54	10.6	20	

Qualifiers:

E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

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CLIENT: Pima County Flood Control
Work Order: 06070610
Project: MHP-ERP/Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R76910	SampType: MBLK	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 76910
Client ID:	Batch ID: R76910	TestNo: E351.4		Analysis Date: 7/28/2006	SeqNo: 914351

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	<1.3	1.3									

Sample ID: LCS-R76910	SampType: LCS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 76910
Client ID:	Batch ID: R76910	TestNo: E351.4		Analysis Date: 7/28/2006	SeqNo: 914352

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	27.98	1.3	25	0	112	85	115				

Sample ID: LCSD-R76910	SampType: LCSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 76910
Client ID:	Batch ID: R76910	TestNo: E351.4		Analysis Date: 7/28/2006	SeqNo: 914366

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	25.20	1.3	25	0	101	85	115	27.98	10.4	20	

Sample ID: 06070582-01CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 76910
Client ID:	Batch ID: R76910	TestNo: E351.4		Analysis Date: 7/28/2006	SeqNo: 914354

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	52.82	1.3	25	36.70	64.5	70	130				M7

Sample ID: 06070582-01CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 76910
Client ID:	Batch ID: R76910	TestNo: E351.4		Analysis Date: 7/28/2006	SeqNo: 914355

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	54.32	1.3	25	36.70	70.5	70	130	52.82	2.80	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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Aerotech Environmental Laboratories Sample Receipt Checklist

Project Checked By: _____

Laboratory Number: 06-07-0610	Checklist completed by:
Client Name: Pima County Flood	Signature/Date: 7-19-06
Matrix: WW / Carrier Name: FZ	Date/Time Rec'd: 7-19-06 1120 By:

Temperature of Samples? 2.9 °C Circle one: Blue Ice (Wet Ice) Not Present

	Yes	No*	Not Present
Shipping container/cooler in good condition?	✓		
Custody seals intact on shipping container/cooler?	✓		
Custody seals intact on sample containers?			✓
Chain of Custody present and relinquished/received properly?	✓		
Chain of Custody agrees with sample labels?	✓		
Samples in proper containers/bottles?	✓		
Sample containers intact?	✓		
All samples received within holding time?	✓		
Is there sufficient sample volume to perform the tests?	✓		
40mL vials for volatiles & SOCs received with zero headspace?			✓

Soil Containers:
Brass Sleeve____
Glass Jar____
Methanol____
Plastic Bag____
Encore Samples____

**See Comment about Chlorine and pH

Total number of bottles received: 1	IH sample media:
If applicable, how many sample bottles were shipped from AEL-Tucson?	N/A

Number of containers received by preservative and by sample number: (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General															
B-HNO3															
C-H2SO4	1														
D-HCl															
E-Na2S2O3															
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? Yes X No N/A 1

Preservative & pH		pH of samples upon receipt	If pH requires adjustment, list sample number, and reagent ID. number
Metals	<2		
Nutrients	<2	2	
Total Phenols	<2		
413 (O&G)	<2		
418 (TPH)	<2		
Cyanide	>12		
Sulfide	>9		

**Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.6. Continue on back if additional space is needed.*

***The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.*

Comments:

Corrective Action:

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[ ] [illegible] 17th Street, Tempe, AZ 85281 (480) 967-1310 FAX (480) 967-1019
[ ] North Phoenix - 1501 W. Knudsen, Phoenix, AZ 85027 (623) 780-4700 FAX (623) 780-2934
[ ] Tucson - 4455 S. Park Ave, Suite 110, Tucson, AZ 85714 (520) 807-3801 FAX (520) 807-3803
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Quote# K2311

Lab Number: 06070610

Customer Number: 1370913		Page 1 of 1	
Customer:	PIMA COUNTY FLOOD CONTROL DISTRICT	Sampler:	David Scalero
Address:	201 N. STONE AVE. 4TH FLOOR	Project Name:	MHP-ERP / Monthly
City, State, Zip:	Tucson AZ 85701	Project Number:	
Contact:	David Scalero	P.O. Number:	
Phone: (520) 740-6350	Fax: (520) 740-6749	Fax Results:	Y N
E-Mail Address:	david.scalero@dot.pima.gov	E-Mail Results:	Y N

Sample Type Codes

DW - Drinking Water; A - Air; WW - Waste Water; S - Soil; HW - Hazardous Waste; Other [illegible]

Sample Receipt

Temperature 24 °C F

Custody Seals: Yes X No ____

Custody Seals Intact: Yes X No ____

Total # of Containers: 1

2.4°C AEL [illegible]

Turn Around Request

____ 24 Hours ____ 48 Hours

____ 72 Hours

____ 5 Working Days

X Standard 10 Working Days

Subject to scheduling & availability (surcharges apply)

Analyses Requested

Sample Information

Lab #	Sample Identification	Date	Time	Type	Nitrate/Nitrite as N	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	# of sample Containers
	Sewer Water MHPERP	7/[illegible]	9:[illegible]	WW	✓	✓	✓	1

Instructions / Special Requirements:

Date:	Time:	Samples Relinquished By:	Received By:
7/[illegible]	12:30	[signature] (Staffed [illegible])	[signature]
7/[illegible]	11:30	[signature]	[signature]
7/[illegible]	1:20		[signature]

Analysis performed is subject to the Terms & Conditions available at www.aerotechenvirolabs.com or call 866.772.5227 to request a copy.

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PC RFCD

AUG 16 2006

Tuesday, August 15, 2006

David Scalero
Pima County Flood Control
201 N. Stone, 4th Floor
Tucson, AZ 85701

TEL: (520) 205-8353
FAX: (520) 205-8360

RE: MHP-ERP/Monthly

Order No.: 06071013

Dear David Scalero:

Aerotech Environmental, Inc. received 1 sample(s) on 7/28/2006 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

Korky Vault
Service Center Manager

Aerotech Environmental Laboratories

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Aerotech Environmental, Inc.

Date: *16-Aug-06*

CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly
Lab Order: 06071013

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
06071013-01C	HP-1 Monitor Well		7/28/2006 10:31:00 AM	7/28/2006

Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aerotechlabs.com
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Aerotech Environmental, Inc. Date: *16-Aug-06*

CLIENT: Pima County Flood Control
Project: MHP-ERP/Monthly
Lab Order: 06071013

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:
- Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.
- Methods for the Determination of Organic Compounds in Drinking Water: Supplement III, EPA/600/R-95/131, August 1995.
- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.
- 40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.
- NIOSH Manual of Analytical Methods, Fourth Edition, 1994.
- Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:
All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Data Qualifiers:
Listed below are the data qualifiers used in your analytical report to explain any analytical or quality control issues. You will find them noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

D1 Sample required dilution due to matrix.
Sample required dilution due to interference from a non-target analyte.

The sample selected as the duplicate and matrix spike contained high concentrations of chloride and/or sulfate. The analyte concentration in the sample is disproportionate to the spike level and it was not practical to analyze the sample at a dilution, as the spike would be diluted out. The LCS/LCSD were recovered acceptably demonstrating that the analytical process was in control.

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Aerotech Environmental Laboratories

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Aerotech Environmental, I **Analytical Report** **Date:** *16-Aug-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1 Monitor Well
Lab Order:	06071013	**Tag Number:**	
Project:	MHP-ERP/Monthly	**Collection Date:**	7/28/2006 10:31:00 AM
Lab ID:	06071013-01C	**Matrix:**	DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **LB**
Nitrogen, Nitrate/Nitrite Total	3.2	0.80	D1	mg/L	2	8/14/2006 2:52:00 AM
NITROGEN, TOTAL KJELDAHL AS N		**E351.4**				Analyst: **AT**
Nitrogen, Total Kjeldahl	< 1.3	1.3		mg/L	1	8/8/2006 2:00:00 PM
NITROGEN, TOTAL		**CALC**				Analyst: **A E**
Nitrogen, Total	3.2	1.7		mg/L	1	8/15/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Aerotech Environmental, Inc.

16-Aug-06

Lab Order: 0607I013
Client: Pima County Flood Control
Project: MHP-ERP/Monthly

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0607I013-01C	HP-1 Monitor Well	7/28/2006 10:31:00 AM	Drinking Water	ANIONS by ION CHROMATOGRAPHY			8/14/2006 2:52:00 AM
				TOTAL KJELDAHL NITROGEN			8/8/2006 2:00:00 PM
				Total Nitrogen (Calculated)			8/15/2006

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Aerotech Environmental, Inc.

Date: *16-Aug-06*

CLIENT: Pima County Flood Control
Work Order: 06071013
Project: MHP-ERP/Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MB-R77557	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 77557
Client ID:	Batch ID: R77557	TestNo: E300		Analysis Date: 8/14/2006	SeqNo: 921929

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	<0.40	0.40									

Sample ID: LCS-R77557	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 77557
Client ID:	Batch ID: R77557	TestNo: E300		Analysis Date: 8/14/2006	SeqNo: 921930

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.970	0.40	8	0	99.6	90	110				

Sample ID: LCSD-R77557	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 77557
Client ID:	Batch ID: R77557	TestNo: E300		Analysis Date: 8/14/2006	SeqNo: 921937

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.980	0.40	8	0	99.8	90	110	7.970	0.125	20	

Sample ID: 06070930-09AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 77557
Client ID:	Batch ID: R77557	TestNo: E300		Analysis Date: 8/14/2006	SeqNo: 921933

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	23.16	0.80	16	7.260	99.4	80	120				

Sample ID: 06070930-09AMSD	SampType: MSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 77557
Client ID:	Batch ID: R77557	TestNo: E300		Analysis Date: 8/14/2006	SeqNo: 921934

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	23.74	0.80	16	7.260	103	80	120	23.16	2.47	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

Main Laboratory: 4545 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
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Aerotech Environmental Laboratories

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CLIENT: Pima County Flood Control
Work Order: 06071013
Project: MHP-ERP Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R77350	SampType: MBLK	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 77350
Client ID:	Batch ID: R77350	TestNo: E351.4		Analysis Date: 8/8/2006	SeqNo: 919747

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	<1.3	1.3									

Sample ID: LCS-R77350	SampType: LCS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 77350
Client ID:	Batch ID: R77350	TestNo: E351.4		Analysis Date: 8/8/2006	SeqNo: 919748

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	27.80	1.3	25	0	111	85	115				

Sample ID: LCSD-R77350	SampType: LCSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 77350
Client ID:	Batch ID: R77350	TestNo: E351.4		Analysis Date: 8/8/2006	SeqNo: 919751

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	25.98	1.3	25	0	104	85	115	27.80	6.79	20	

Sample ID: 06071001-02CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 77350
Client ID:	Batch ID: R77350	TestNo: E351.4		Analysis Date: 8/8/2006	SeqNo: 919754

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	25.78	1.3	25	3.350	89.7	70	130				

Sample ID: 06071001-02CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 77350
Client ID:	Batch ID: R77350	TestNo: E351.4		Analysis Date: 8/8/2006	SeqNo: 919755

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	26.20	1.3	25	3.350	91.4	70	130	25.78	1.64	20	

Qualifiers:

- E: Value above quantitation range
- ND: Not Detected at the Reporting Limit
- H: Holding times for preparation or analysis exceeded
- R: RPD outside accepted recovery limits
- J: Analyte detected below quantitation limits
- S: Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
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Arcadis Environmental Laboratories Sample Receipt Checklist

Project Checked By: [signature]

Laboratory Number: 06-07-1013	Checklist completed by: James Franklin
Client Name: Pima County Flood Co.	Signature/Date: 7/31/06
Matrix: D.W. Carrier Name: I2-Exp.	Date/Time Rec'd: 7/31/06 12:00 By: I.G.

Temperature of Samples? 2.0 °C Circle one: Blue Ice (Wet Ice) Not Present

	Yes	No*	Not Present
Shipping container/cooler in good condition?	✓		
Custody seals intact on shipping container/cooler?	✓		
Custody seals intact on sample containers?			✓
Chain of Custody present and relinquished/received properly?	✓		
Chain of Custody agrees with sample labels?	✓		
Samples in proper containers/bottles?	✓		
Sample containers intact?	✓		
All samples received within holding time?	✓		**See Comment about Chlorine and pH
Is there sufficient sample volume to perform the tests?	✓		
40mL vials for volatiles & SOCs received with zero headspace?			✓

Soil Containers:
Brass Sleeve____
Glass Jar____
Methanol____
Plastic Bag____
Encore Samplers____

Total number of bottles received: 1 BH sample media: N/A 7/31/06 I.G.

If applicable, how many sample bottles were shipped from AEL-Tucson? 1 N/A ✓

Number of containers received by preservative and by sample number: (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General															
B-HNO3															
C-H2SO4	1														
D-HCl															
E-Ma25200															
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? Yes ✓ No N/A

Preservative & pH		pH of samples upon receipt	If pH requires adjustment, list sample number, and reagent ID. number
Metals	<2		
Nutrients	<2	< 2	
Total Phenols	<2		
413 (O&G)	<2		
418 (TPH)	<2		
Cyanide	>12		
Sulfide	>9		

**Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.6. Continue on back if additional space is needed.*

***The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.*

Comments:

Corrective Action:

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[ ] North Phoenix - 1501 W. Knudsen, Phoenix, AZ 85027 (623) 780-4700 FAX (623) 780-2934
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Quote# K2311

Lab Number: 06071013

Customer Number:	1370913	Page 1 of 1	
Customer:	PIMA COUNTY FLOOD CONTROL DISTRICT	Sampler:	David Scalero
Address:	201 N. STONE AVE. 4TH FLOOR	Project Name:	MHP-ERP / Monthly
City, State, Zip:	Tucson AZ 85701	Project Number:	
Contact:	David Scalero	P.O. Number:	
Phone:	(520) 740-6350 Fax: (520) 740-6749	Fax Results:	Y N
E-Mail Address:	david.scalero@dot.pima.gov	E-Mail Results:	Y N

Sample Type Codes

DW - Drinking Water A - Air
WW - Waste Water S - Soil
HW - Hazardous Waste
Other _____

Sample Receipt

Temperature: 2.0 °C wet
Custody Seals: Yes ____ No X
Custody Seals Intact: Yes ____ No N/A
Total # of Containers: 1

Turn Around Request

____ 24 Hours ____ 48 Hours
____ 72 Hours
____ 5 Working Days
X Standard 10 Working Days
Subject to scheduling & availability (surcharges apply)

Analyses Requested

Sample Information

Lab #	Sample Identification	Date	Time	Type	Nitrate/Nitrite as N	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	# of sample Containers
1	HP-1 Monitor Well	7/28/06	10:31	DW	✓	✓	✓	1

Instructions / Special Requirements:

Date:	Time:	Samples Relinquished By:	Received By:
7/28	12:20	[illegible]	[illegible]
7/31/06	0800	[illegible]	[illegible]
7/31/06	12:00	[illegible]	[illegible]

Analysis performed is subject to the Terms & Conditions available at www.aeroenvirolabs.com or call 866.722.5227 to request a copy.

Aerotech Environmental Laboratories
a division of Aerotech Laboratories, Inc.

PC RFCD
SEP 08 2006

Wednesday, September 06, 2006

David Scalero
Pima County Flood Control
201 N. Stone, 4th Floor
Tucson, AZ 85701

TEL: (520) 205-8353
FAX (520) 205-8360

RE: MHP-ERP Monthly

Order No.: 06080844

Dear David Scalero:

Aerotech Environmental, Inc. received 1 sample(s) on 8/22/2006 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

Lawnie Heelan
Project Manager

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental, Inc. **Date:** *06-Sep-06*

CLIENT: Pima County Flood Control
Project: MHP-ERP Monthly
Lab Order: 06080844

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

- Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.
- Methods for the Determination of Organic Compounds in Drinking Water: Supplement III, EPA/600/R-95/131, August 1995.
- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.
- 40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.
- NIOSH Manual of Analytical Methods, Fourth Edition, 1994.
- Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:
All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Data Qualifiers:
Listed below are the data qualifiers used in your analytical report to explain any analytical or quality control issues. You will find them noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

D1 Sample required dilution due to matrix.

Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental, Inc.

Date: *06-Sep-06*

CLIENT: Pima County Flood Control
Project: MHP-ERP Monthly
Lab Order: 06080844

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
06080844-01C	HP-1 MHP-ERP		8/22/2006 10:55:00 AM	8/22/2006

Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

Aerotech Environmental Laboratories

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Aerotech Environmental, I — Analytical Report

Date: *06-Sep-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1 MHP-ERP
Lab Order:	06080844	**Tag Number:**	
Project:	MHP-ERP Monthly	**Collection Date:**	8/22/2006 10:55:00 AM
Lab ID:	06080844-01C	**Matrix:**	DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: **AT**
Nitrogen, Nitrate/Nitrite Total	3.3	0.80	D1	mg/L	2	9/1/2006 11:11:00 PM
NITROGEN, TOTAL KJELDAHL AS N		E351.4				Analyst: **JLS**
Nitrogen, Total Kjeldahl	< 1.3	1.3		mg/L	1	8/29/2006
NITROGEN, TOTAL		CALC				Analyst: **LMc**
Nitrogen, Total	3.3	1.7		mg/L	1	9/5/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.

(1) AEL - Tucson Laboratory

(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

ain Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
ucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803
Corporate Address: 1501 W. Knudsen Drive, Phoenix, Arizona 85027 Phone: 623.780.4800 Toll Free: 800.851.4802 Fax: 623.780.7696 www.aerotechlabs.com

Aerotech Environmental Laboratories
a division of Aerotech Laboratories, Inc.

Aerotech Environmental, Inc.

06-Sep-06

Lab Order: 06080844
Client: Pima County Flood Control
Project: MHP-ERP Monthly

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
06080844-01C	HP-1 MHP-ERP	8/22/2006 10:55:00 AM	Drinking Water	ANIONS by ION CHROMATOGRAPHY			9/1/2006 11:11:00 PM
				TOTAL KJELDAHL NITROGEN			8/29/2006
				Total Nitrogen (Calculated)			9/5/2006

■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aerocenvirolabs.com
■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

Aerotech Environmental Laboratories
a division of Aerotech Laboratories, Inc.

Aerotech Environmental, Inc.

Date: 06-Sep-06

CLIENT: Pima County Flood Control
Work Order: 060803644
Project: MHP-ERP Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MB-R78368	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 78368
Client ID:	Batch ID: R78368	TestNo: E300		Analysis Date: 9/1/2006	SeqNo: 931425

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	<0.40	0.40									

Sample ID: LCS-R78368	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 78368
Client ID:	Batch ID: R78368	TestNo: E300		Analysis Date: 9/1/2006	SeqNo: 931426

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	8.010	0.40	8	0	100	90	110				

Sample ID: LCSD-R78368	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 78368
Client ID:	Batch ID: R78368	TestNo: E300		Analysis Date: 9/2/2006	SeqNo: 931429

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	8.080	0.40	8	0	101	90	110	8.010	0.870	20	

Sample ID: 06090025-08AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 78368
Client ID:	Batch ID: R78368	TestNo: E300		Analysis Date: 9/1/2006	SeqNo: 931434

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	8.450	0.40	8	0	106	80	120				

Sample ID: 06090025-08AMSD	SampType: MSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 78368
Client ID:	Batch ID: R78368	TestNo: E300		Analysis Date: 9/1/2006	SeqNo: 931435

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	8.480	0.40	8	0	106	80	120	8.450	0.354	20	

Qualifiers:

E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

CLIENT: Pima County Flood Control
Work Order: 06080844
Project: MHP-ERP Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R78187	SampType: MBLK	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 78187
Client ID:	Batch ID: R78187	TestNo: E351.4		Analysis Date: 8/29/2006	SeqNo: 929342

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	<1.3	1.3									

Sample ID: LCS-R78187	SampType: LCS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 78187
Client ID:	Batch ID: R78187	TestNo: E351.4		Analysis Date: 8/29/2006	SeqNo: 929343

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	24.26	1.3	25	0	97.1	85	115				

Sample ID: LCSD-R78187	SampType: LCSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 78187
Client ID:	Batch ID: R78187	TestNo: E351.4		Analysis Date: 8/29/2006	SeqNo: 929368

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	23.50	1.3	25	0	94.0	85	115	24.26	3.24	20	

Sample ID: 06080727-01CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 78187
Client ID:	Batch ID: R78187	TestNo: E351.4		Analysis Date: 8/29/2006	SeqNo: 929345

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	22.55	1.3	25	0	90.2	70	130				

Sample ID: 06080819-01CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 78187
Client ID:	Batch ID: R78187	TestNo: E351.4		Analysis Date: 8/29/2006	SeqNo: 929357

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	68.02	1.3	25	39.95	104	70	130				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

CLIENT: Pima County Flood Control
Work Order: 0608060544
Project: MHP-ERP Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: 0608072?-01CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 78187
Client ID:	Batch ID: R78187	TestNo: E351.4		Analysis Date: 8/29/2006	SeqNo: 929346

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	22.22	1.3	25	0	88.9	70	130	22.55	1.45	20	

Sample ID: 0608081?-01CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 78187
Client ID:	Batch ID: R78187	TestNo: E351.4		Analysis Date: 8/29/2006	SeqNo: 929358

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	63.90	1.3	25	39.95	95.8	70	130	66.02	3.27	20	

Qualifiers:

E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

Aerotech Environmental Laboratories Sample Receipt Checklist

Project Checked By: RF

Laboratory Number: 06-08-0844	Checklist completed by: James Gravlin
Client Name: Pima County Flood Control	Signature/Date: 8/23/06
Matrix: DW. Carrier Name: J2-Exp	Date/Time Rec'd: 8/23/06 11:10 By: J.G.

Temperature of Samples? 0.8 °C Circle one: Blue Ice (Wet Ice) Not Present

	Yes	No*	Not Present
Shipping container/cooler in good condition?	✓		
Custody seals intact on shipping container/cooler?	✓		
Custody seals intact on sample containers?			✓
Chain of Custody present and relinquished/received properly?	✓		
Chain of Custody agrees with sample labels?	✓		
Samples in proper containers/bottles?	✓		
Sample containers intact?	✓		
All samples received within holding time?	✓		**See Comment about Chlorine and pH
Is there sufficient sample volume to perform the tests?	✓		
40mL vials for volatiles & SOCs received with zero headspace?			✓

Soil Containers:
Brass Sleeve
Glass Jar
Methanol
Plastic Bag
Encore Samples

Total number of bottles received: 1	BI sample media: N/A
If applicable, how many sample bottles were shipped from AEL-Tucson?	N/A

Number of containers received by preservative and by sample number: (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General															
B-HNO3															
C-H2SO4	1														
D-HCl															
E-Na2S2O3															
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? Yes ✓ No N/A

Preservative & pH		pH of samples upon receipt	If pH requires adjustment, list sample number, and reagent ID. number
Metals	<2		
Nutrients	<2	< 2	
Total Phenols	<2		
413 (O&G)	<2		
418 (TPH)	<2		
Cyanide	>12		
Sulfide	>9		

**Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.6. Continue on back if additional space is needed.*

***The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.*

Comments:

Corrective Action:

Aerotech Environmental Laboratories

an affiliate of Severn Trent Laboratories, Inc.

[ ] 17th Street, Tempe, AZ 85281 (480) 967-1310 FAX (480) 967-1019

[ ] North Phoenix - 1501 W. Knudsen, Phoenix, AZ 85027 (623) 780-4700 FAX (623) 780-2934

[ ] Tucson - 4455 S. Park Ave, Suite 110, Tucson, AZ 85714 (520) 807-3801 FAX (520) 807-3803

www.palabs.com or call toll-free 1-866-7PALABS (1-866-772-5227)

Quote# K2311

Lab Number: 06080844

Customer Number: 1370913		Page 1 of 1	
Customer:	PIMA COUNTY FLOOD CONTROL DISTRICT	Sampler:	David Scalero
Address:	201 N. STONE AVE. 4TH FLOOR	Project Name:	MHP-ERP / Monthly
City, State, Zip:	Tucson AZ. 85701	Project Number:	
Contact:	David Scalero	P.O. Number:	
Phone:	(520) 740-6350 Fax: (520) 740-6749	Fax Results:	Y N
E-Mail Address:	david.scalero@dot.pima.gov	E-Mail Results:	Y N

Sample Type Codes

DW - Drinking Water; A - Air; WW - Waste Water; S - Soil; HW - Hazardous Waste; Other: _____

Sample Receipt

Temperature: 0.3 °C (Wet)

Custody Seals: Yes _____ No: X

Custody Seals Intact: Yes _____ No: N/A

Total # of Containers: 1

Turn Around Request

_____ 24 Hours _____ 48 Hours

_____ 72 Hours

_____ 5 Working Days

_____ Standard 10 Working Days

Subject to scheduling & availability (surcharges apply)

Sample Information

Lab #	Sample Identification	Date	Time	Type	Nitrate/Nitrite as N	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	# of sample Containers
1	MHP-ERP-1	4-2-08	9:45	GW	X	X	X	1

Instructions / Special Requirements:

Date:	Time:	Samples Relinquished By:	Received By:
4/2/08	1320		
4/2/08	1130		
4/3/08	0810		

Analysis performed is subject to the Terms & Conditions available at www.severnlabs.com or call 866.722.5227 to request a copy.

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

PO INFO

OCT 2 0 2006

Friday, October 13, 2006

David Scalero
Pima County Flood Control
201 N. Stone, 4th Floor
Tucson, AZ 85701

TEL: (520) 205-8353
FAX (520) 205-8360

RE: MHP-ERP / Monthly-Qrtly

Order No.: 06100041

Dear David Scalero:

Aerotech Environmental, Inc. received 1 sample(s) on 9/29/2006 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

Lawnie Heelan
Project Manager

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental, I Analytical Report Date: *13-Oct-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	06100041	**Tag Number:**	
Project:	MHP-ERP / Monthly-Qrtly	**Collection Date:**	9/29/2006 10:40:00 AM
Lab ID:	06100041-01B	**Matrix:**	DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP/MS METALS, TOTAL RECOVERABLE		**E200.8**				Analyst: **TD**
Antimony	< 0.0030	0.0030		mg/L	1	10/11/2006 9:43:37 AM
Arsenic	0.0020	0.0010		mg/L	1	10/11/2006 9:43:37 AM
Barium	0.15	0.0010		mg/L	1	10/11/2006 9:43:37 AM
Beryllium	< 0.0010	0.0010		mg/L	1	10/11/2006 9:43:37 AM
Cadmium	< 0.0010	0.0010		mg/L	1	10/11/2006 9:43:37 AM
Chromium	< 0.0010	0.0010		mg/L	1	10/11/2006 9:43:37 AM
Lead	0.0040	0.0010		mg/L	1	10/11/2006 9:43:37 AM
Nickel	0.011	0.0010		mg/L	1	10/11/2006 9:43:37 AM
Selenium	< 0.0020	0.0020		mg/L	1	10/11/2006 9:43:37 AM
Thallium	< 0.0010	0.0010		mg/L	1	10/11/2006 9:43:37 AM
MERCURY, TOTAL		**E245.1**				Analyst: **PC**
Mercury	< 0.00020	0.00020		mg/L	1	10/9/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory
(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

...ain Laboratory: 4625 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.8192 www.aerotechlabs.com
Tucson Facility: 4455 N. Park Ave. Ste. 115 Tucson, AZ 85718 Phone: 520.807.9801 Fax: 520.807.9809

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental, Inc.

Date: *13-Oct-06*

CLIENT: Pima County Flood Control
Project: MHP-ERP / Monthly-Qrtly
Lab Order: 06100041

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
06100041-01B	HP-1		9/29/2006 10:40:00 AM	10/2/2006
06100041-01C	HP-1		9/29/2006 10:40:00 AM	10/2/2006
06100041-01D	HP-1		9/29/2006 10:40:00 AM	10/2/2006

...in Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.8192 www.aeroenvirolabs.com
Tucson Facility: 4455 S. Park Ave. Ste. 109, Tucson, AZ 85714 Phone: 520.807.9801 Fax: 520.807.9803

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental, Inc. **Date:** *13-Oct-06*

CLIENT: Pima County Flood Control
Project: MHP-ERP / Monthly-Qrtly
Lab Order: 06100041

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

- Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.
- Methods for the Determination of Organic Compounds in Drinking Water: Supplement III, EPA/600/R-95/131, August 1995.
- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.
- 40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.
- NIOSH Manual of Analytical Methods, Fourth Edition, 1994.
- Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:
All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
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Aerotech Environmental, I — Analytical Report

Date: *13-Oct-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	06100041	**Tag Number:**	
Project:	MHP-ERP / Monthly-Qrtly	**Collection Date:**	9/29/2006 10:40:00 AM
Lab ID:	06100041-01C	**Matrix:**	DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NITROGEN, TOTAL KJELDAHL AS N		**E351.4**				Analyst: **AC**
Nitrogen, Total Kjeldahl	< 1.3	1.3		mg/L	1	10/5/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

Aerotech Environmental, I **Analytical Report** **Date:** *13-Oct-06*

CLIENT:	Pima County Flood Control	**Client Sample ID:**	HP-1
Lab Order:	06100041	**Tag Number:**	
Project:	MHP-ERP / Monthly-Qrtly	**Collection Date:**	9/29/2006 10:40:00 AM
Lab ID:	06100041-01D	**Matrix:**	DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY GC/MS		**SW8260B**				Analyst: **JZ**
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	10/6/2006
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	10/6/2006
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	10/6/2006
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	10/6/2006
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	10/6/2006
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	10/6/2006
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	10/6/2006
Benzene	< 1.0	1.0		µg/L	1	10/6/2006
Carbon tetrachloride	< 1.0	1.0		µg/L	1	10/6/2006
Chlorobenzene	< 1.0	1.0		µg/L	1	10/6/2006
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	10/6/2006
Ethylbenzene	< 1.0	1.0		µg/L	1	10/6/2006
Styrene	< 1.0	1.0		µg/L	1	10/6/2006
Tetrachloroethene	< 1.0	1.0		µg/L	1	10/6/2006
Toluene	< 1.0	1.0		µg/L	1	10/6/2006
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	10/6/2006
Trichloroethene	< 1.0	1.0		µg/L	1	10/6/2006
Trihalomethanes, Total	< 1.0	1.0		µg/L	1	10/6/2006
Vinyl chloride	< 1.0	1.0		µg/L	1	10/6/2006
Xylenes, Total	< 2.0	2.0		µg/L	1	10/6/2006
Surr: 4-Bromofluorobenzene	101	63.3-123		%REC	1	10/6/2006
Surr: Dibromofluoromethane	105	62.8-120		%REC	1	10/6/2006
Surr: Toluene-d8	101	60-122		%REC	1	10/6/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory
(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Aerotech Environmental Laboratories
a division of Aerotech Laboratories, Inc.

Aerotech Environmental, Inc.

13-Oct-06

Lab Order: 0610004I
Client: Pima County Flood Control
Project: MHP-ERP / Monthly-Qrtly

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0610004I-01B	HP-1	9/29/2006 10:40:00 AM	Drinking Water	ICP/MS METALS, TOTAL RECOVERABLE		10/5/2006 2:00:00 PM	10/11/2006 9:43:37 AM
0610004I-01C				MERCURY IN WATERS		10/9/2006 10:30:00 AM	10/9/2006
0610004I-01D				TOTAL KJELDAHL NITROGEN			10/5/2006
				VOLATILES by GC/MS			10/6/2006

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Aerotech Environmental, Inc.

Date: 13-Oct-06

CLIENT: Pima County Flood Control
Work Order: 0610004I
Project: MHP-ERP / Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: MB-27223	SampType: MBLK	TestCode: 200.8	Units: mg/L	Prep Date: 10/5/2006	RunNo: 79847
Client ID:	Batch ID: 27223	TestNo: E200.8		Analysis Date: 10/11/2006	SeqNo: 948898

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	<0.0030	0.0030									
Arsenic	<0.0010	0.0010									
Barium	<0.0010	0.0010									
Beryllium	<0.0010	0.0010									
Cadmium	<0.0010	0.0010									
Chromium	<0.0010	0.0010									
Lead	<0.0010	0.0010									
Nickel	<0.0010	0.0010									
Selenium	<0.0020	0.0020									
Thallium	<0.0010	0.0010									

Sample ID: LCS-27223	SampType: LCS	TestCode: 200.8	Units: mg/L	Prep Date: 10/5/2006	RunNo: 79847
Client ID:	Batch ID: 27223	TestNo: E200.8		Analysis Date: 10/11/2006	SeqNo: 948899

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.09843	0.0030	0.1	0	98.4	85	115				
Arsenic	0.1007	0.0010	0.1	0	101	85	115				
Barium	0.1000	0.0010	0.1	0	100	85	115				
Beryllium	0.09510	0.0010	0.1	0	95.1	85	115				
Cadmium	0.09900	0.0010	0.1	0	99.0	85	115				
Chromium	0.1013	0.0010	0.1	0	101	85	115				
Lead	0.09692	0.0010	0.1	0	96.9	85	115				
Nickel	0.1001	0.0010	0.1	0	100	85	115				
Selenium	0.09903	0.0020	0.1	0	99.0	85	115				
Thallium	0.09871	0.0010	0.1	0	98.7	85	115				

Qualifiers:

- E: Value above quantitation range
- ND: Not Detected at the Reporting Limit
- H: Holding times for preparation or analysis exceeded
- R: RPD outside accepted recovery limits
- J: Analyte detected below quantitation limits
- S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06100041
Project: MHP-ERP / Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: LCSD-27223	SampType: LCSD	TestCode: 200.8	Units: mg/L	Prep Date: 10/5/2006	RunNo: 79847
Client ID:	Batch ID: 27223	TestNo: E200.8		Analysis Date: 10/11/2006	SeqNo: 948899

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.09893	0.0030	0.1	0	98.9	85	115	0.09843	0.507	20	
Arsenic	0.1006	0.0010	0.1	0	101	85	115	0.1007	0.116	20	
Barium	0.1001	0.0010	0.1	0	100	85	115	0.1000	0.0140	20	
Beryllium	0.09475	0.0010	0.1	0	94.7	85	115	0.09510	0.374	20	
Cadmium	0.09906	0.0010	0.1	0	99.1	85	115	0.09900	0.0525	20	
Chromium	0.1019	0.0010	0.1	0	102	85	115	0.1013	0.555	20	
Lead	0.09618	0.0010	0.1	0	96.2	85	115	0.09692	0.759	20	
Nickel	0.1013	0.0010	0.1	0	101	85	115	0.1001	1.11	20	
Selenium	0.09992	0.0020	0.1	0	99.9	85	115	0.09903	0.896	20	
Thallium	0.09897	0.0010	0.1	0	99.0	85	115	0.09871	0.271	20	

Sample ID: 06100041-01BMS	SampType: MS	TestCode: 200.8	Units: mg/L	Prep Date: 10/5/2006	RunNo: 79847
Client ID: HP-1	Batch ID: 27223	TestNo: E200.8		Analysis Date: 10/11/2006	SeqNo: 948880

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1059	0.0030	0.1	0	106	70	130				
Arsenic	0.1089	0.0010	0.1	0.002019	107	70	130				
Barium	0.2518	0.0010	0.1	0.1540	97.8	70	130				
Beryllium	0.09962	0.0010	0.1	0	99.6	70	130				
Cadmium	0.1022	0.0010	0.1	0	102	70	130				
Chromium	0.09905	0.0010	0.1	0	99.1	70	130				
Lead	0.09629	0.0010	0.1	0.003971	95.3	70	130				
Nickel	0.1052	0.0010	0.1	0.01139	93.8	70	130				
Selenium	0.1089	0.0020	0.1	0	109	70	130				
Thallium	0.09805	0.0010	0.1	0	98.0	70	130				

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06100041
Project: MHP-ERP / Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: 06100124-02BMS	SampType: MS	TestCode: 200.8	Units: mg/L	Prep Date: 10/5/2006	RunNo: 79847
Client ID:	Batch ID: 27223	TestNo: E200.8		Analysis Date: 10/11/2006	SeqNo: 948890

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1080	0.0030	0.1	0	108	70	130				
Arsenic	0.1197	0.0010	0.1	0.01065	109	70	130				
Barium	0.2074	0.0010	0.1	0.1053	102	70	130				
Beryllium	0.09108	0.0010	0.1	0	91.1	70	130				
Cadmium	0.1007	0.0010	0.1	0	101	70	130				
Chromium	0.1035	0.0010	0.1	0.006116	97.4	70	130				
Lead	0.1050	0.0010	0.1	0.009067	98.9	70	130				
Nickel	0.1044	0.0010	0.1	0.01504	89.4	70	130				
Selenium	0.1142	0.0020	0.1	0.003345	111	70	130				
Thallium	0.1038	0.0010	0.1	0	104	70	130				

Sample ID: 06100041-01BMSD	SampType: MSD	TestCode: 200.8	Units: mg/L	Prep Date: 10/5/2006	RunNo: 79847
Client ID: HP-1	Batch ID: 27223	TestNo: E200.8		Analysis Date: 10/11/2006	SeqNo: 948881

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1055	0.0030	0.1	0	106	70	130	0.1059	0.360	15	
Arsenic	0.1088	0.0010	0.1	0.0032019	107	70	130	0.1089	0.0928	15	
Barium	0.2508	0.0010	0.1	0.1540	96.8	70	130	0.2518	0.421	15	
Beryllium	0.1002	0.0010	0.1	0	100	70	130	0.09962	0.567	15	
Cadmium	0.1034	0.0010	0.1	0	103	70	130	0.1022	1.10	15	
Chromium	0.09846	0.0010	0.1	0	98.5	70	130	0.09905	0.598	15	
Lead	0.09975	0.0010	0.1	0.003971	95.8	70	130	0.09929	0.466	15	
Nickel	0.1057	0.0010	0.1	0.01139	94.3	70	130	0.1052	0.456	15	
Selenium	0.1083	0.0020	0.1	0	108	70	130	0.1089	0.493	15	
Thallium	0.09816	0.0010	0.1	0	98.2	70	130	0.09805	0.113	15	

Qualifiers:

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- J: Analyte detected below quantitation limits
- ND: Not Detected at the Reporting Limit
- R: RPD outside accepted recovery limits
- S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 0610004I
Project: MHP-ERP / Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: 0610004-02BMSD	SampType: MSD	TestCode: 200.8	Units: mg/L	Prep Date: 10/5/2006	RunNo: 79847
Client ID:	Batch ID: 27223	TestNo: E200.8		Analysis Date: 10/11/2006	SeqNo: 948891

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1072	0.0030	0.1	0	107	70	130	0.1080	0.691	15	
Arsenic	0.1183	0.0010	0.1	0.01095	108	70	130	0.1197	1.15	15	
Barium	0.2064	0.0010	0.1	0.1053	101	70	130	0.2074	0.485	15	
Beryllium	0.09030	0.0010	0.1	0	90.3	70	130	0.09108	0.860	15	
Cadmium	0.09987	0.0010	0.1	0	99.9	70	130	0.1007	0.837	15	
Chromium	0.1037	0.0010	0.1	0.006116	97.6	70	130	0.1035	0.243	15	
Lead	0.1050	0.0010	0.1	0.006057	98.9	70	130	0.1050	0.0152	15	
Nickel	0.1052	0.0010	0.1	0.01504	90.2	70	130	0.1044	0.795	15	
Selenium	0.1129	0.0020	0.1	0.003345	110	70	130	0.1142	1.13	15	
Thallium	0.1035	0.0010	0.1	0	104	70	130	0.1038	0.264	15	

Qualifiers:

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- J: Analyte detected below quantitation limits
- ND: Not Detected at the Reporting Limit
- R: RPD outside accepted recovery limits
- S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06100041
Project: MHP-ERP / Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_W

Sample ID: MB-27242	SampType: MBLK	TestCode: 245.1_W	Units: mg/L	Prep Date: 10/9/2006	RunNo: 79735
Client ID:	Batch ID: 27242	TestNo: E245.1		Analysis Date: 10/9/2006	SeqNo: 946975

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	<0.00020	0.00020									

Sample ID: LCS-27242	SampType: LCS	TestCode: 245.1_W	Units: mg/L	Prep Date: 10/9/2006	RunNo: 79735
Client ID:	Batch ID: 27242	TestNo: E245.1		Analysis Date: 10/9/2006	SeqNo: 946977

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009780	0.00020	0.01	0	97.8	85	115				

Sample ID: LCSD-27242	SampType: LCSD	TestCode: 245.1_W	Units: mg/L	Prep Date: 10/9/2006	RunNo: 79735
Client ID:	Batch ID: 27242	TestNo: E245.1		Analysis Date: 10/9/2006	SeqNo: 946978

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009950	0.00020	0.01	0	99.5	85	115	0.009780	1.72	20	

Sample ID: 06100194-03BMS	SampType: MS	TestCode: 245.1_W	Units: mg/L	Prep Date: 10/9/2006	RunNo: 79735
Client ID:	Batch ID: 27242	TestNo: E245.1		Analysis Date: 10/9/2006	SeqNo: 946983

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009950	0.00020	0.01	0	99.5	88.4	122				

Sample ID: 06100079-01BMS	SampType: MS	TestCode: 245.1_W	Units: mg/L	Prep Date: 10/9/2006	RunNo: 79763
Client ID:	Batch ID: 27242	TestNo: E245.1		Analysis Date: 10/9/2006	SeqNo: 947381

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.01010	0.00020	0.01	0	101	88.4	122				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06100041
Project: MHP-ERP / Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_W

Sample ID: 06100194-03BMSD	SampType: MSD	TestCode: 245.1_W	Units: mg/L	Prep Date: 10/9/2006	RunNo: 79735
Client ID:	Batch ID: 27242	TestNo: E245.1		Analysis Date: 10/9/2006	SeqNo: 946984

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.01050	0.00020	0.01	0	105	88.4	122	0.009950	5.38	20	

Sample ID: 06100079-01BMSD	SampType: MSD	TestCode: 245.1_W	Units: mg/L	Prep Date: 10/9/2006	RunNo: 79763
Client ID:	Batch ID: 27242	TestNo: E245.1		Analysis Date: 10/9/2006	SeqNo: 947382

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009890	0.00020	0.01	0	98.9	88.4	122	0.01010	2.10	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06100041
Project: MHP-ERP / Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: MB-R79723	SampType: MBLK	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 79723
Client ID:	Batch ID: R79723	TestNo: SW8260B		Analysis Date: 10/6/2006	SeqNo: 946827

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	<1.0	1.0									
1,1,2-Trichloroethane	<1.0	1.0									
1,1-Dichloroethene	<1.0	1.0									
1,2-Dichlorobenzene	<1.0	1.0									
1,2-Dichloroethane	<1.0	1.0									
1,2-Dichloropropane	<1.0	1.0									
1,4-Dichlorobenzene	<1.0	1.0									
Benzene	<1.0	1.0									
Carbon tetrachloride	<1.0	1.0									
Chlorobenzene	<1.0	1.0									
cis-1,2-Dichloroethene	<1.0	1.0									
Ethylbenzene	<1.0	1.0									
Styrene	<1.0	1.0									
Tetrachloroethene	<1.0	1.0									
Toluene	<1.0	1.0									
trans-1,2-Dichloroethene	<1.0	1.0									
Trichloroethene	<1.0	1.0									
Trihalomethanes, Total	<1.0	1.0									
Vinyl chloride	<1.0	1.0									
Xylenes, Total	<2.0	2.0									
Surr: 4-Bromofluorobenzene	24.84	0	25	0	99.4	61.9	124				
Surr: Dibromofluoromethane	25.34	0	25	0	101	63.1	119				
Surr: Toluene-d8	25.47	0	25	0	102	61.8	120				

Sample ID: LCS-R79723	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 79723
Client ID:	Batch ID: R79723	TestNo: SW8260B		Analysis Date: 10/6/2006	SeqNo: 946828

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	26.73	1.0	25	0	107	72.5	131				

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

CLIENT: Pima County Flood Control
Work Order: 0610004I
Project: MHP-ERP / Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: LCS-R79723	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 79723
Client ID:	Batch ID: R79723	TestNo: SW8260B		Analysis Date: 10/5/2006	SeqNo: 946828

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	25.74	1.0	25	0	103	78.2	120				
1,1-Dichloroethene	26.89	1.0	25	0	108	76.1	127				
1,2-Dichlorobenzene	23.70	1.0	25	0	94.8	78	115				
1,2-Dichloroethane	26.46	1.0	25	0	106	64	137				
1,2-Dichloropropane	25.06	1.0	25	0	100	82.2	115				
1,4-Dichlorobenzene	23.36	1.0	25	0	93.4	77.4	113				
Benzene	26.06	1.0	25	0	104	75.9	124				
Carbon tetrachloride	26.38	1.0	25	0	106	72	134				
Chlorobenzene	24.06	1.0	25	0	96.2	82.5	110				
cis-1,2-Dichloroethene	25.80	1.0	25	0	103	78.9	119				
Ethylbenzene	24.25	1.0	25	0	97.0	81.4	115				
Styrene	24.75	1.0	25	0	99.0	80.8	119				
Tetrachloroethene	24.72	1.0	25	0	98.9	76.6	123				
Toluene	24.77	1.0	25	0	99.1	80.8	116				
trans-1,2-Dichloroethene	25.40	1.0	25	0	102	77.7	122				
Trichloroethene	25.16	1.0	25	0	101	80.7	115				
Vinyl chloride	27.25	1.0	25	0	109	74.4	126				
Surr: 4-Bromofluorobenzene	25.53	0	25	0	102	61.9	124				
Surr: Dibromofluoromethane	25.75	0	25	0	103	63.1	119				
Surr: Toluene-d8	25.05	0	25	0	100	61.8	120				

Sample ID: LCSD-R79723	SampType: LCSD	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 79723
Client ID:	Batch ID: R79723	TestNo: SW8260B		Analysis Date: 10/5/2006	SeqNo: 946829

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	24.81	1.0	25	0	99.2	72.5	131	26.73	7.45	25	
1,1,2-Trichloroethane	23.40	1.0	25	0	93.6	78.2	120	25.74	9.52	25	
1,1-Dichloroethene	24.78	1.0	25	0	99.1	76.1	127	26.89	8.17	25	
1,2-Dichlorobenzene	22.60	1.0	25	0	90.4	78	115	23.70	4.75	25	

Qualifiers:
E: Value above quantitation range
ND: Not Detected at the Reporting Limit
H: Holding times for preparation or analysis exceeded
R: RPD outside accepted recovery limits
J: Analyte detected below quantitation limits
S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06100041
Project: MHP-ERP / Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: LCSD-R79723	SampType: LCSD	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 79723
Client ID:	Batch ID: R79723	TestNo: SW8260B		Analysis Date: 10/5/2006	SeqNo: 946829

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane	24.47	1.0	25	0	97.9	64	137	25.46	7.81	25	
1,2-Dichloropropane	23.30	1.0	25	0	93.2	82.2	115	25.06	7.28	25	
1,4-Dichlorobenzene	22.48	1.0	25	0	89.8	77.4	113	23.36	4.02	25	
Benzene	24.05	1.0	25	0	96.2	75.9	124	25.06	8.02	25	
Carbon tetrachloride	24.50	1.0	25	0	98.0	72	134	26.38	7.39	25	
Chlorobenzene	22.95	1.0	25	0	91.8	82.5	110	24.06	4.72	25	
cis-1,2-Dichloroethene	24.32	1.0	25	0	97.3	78.9	119	25.80	5.91	25	
Ethylbenzene	23.11	1.0	25	0	92.4	81.4	115	24.25	4.86	25	
Styrene	24.07	1.0	25	0	96.3	80.8	119	24.75	2.79	25	
Tetrachloroethene	24.00	1.0	25	0	96.0	76.5	123	24.72	2.96	25	
Toluene	23.45	1.0	25	0	93.8	80.8	116	24.77	5.47	25	
trans-1,2-Dichloroethene	23.50	1.0	25	0	94.0	77.7	122	25.40	7.77	25	
Trichloroethene	23.54	1.0	25	0	94.2	80.7	115	25.15	6.65	25	
Vinyl chloride	24.56	1.0	25	0	98.2	74.4	126	27.25	10.4	25	
Surr: 4-Bromofluorobenzene	25.30	0	25	0	105	61.9	124	25.53	0	0	
Surr: Dibromofluoromethane	25.23	0	25	0	101	63.1	119	25.75	0	0	
Surr: Toluene-d8	25.08	0	25	0	100	61.8	120	25.05	0	0	

Sample ID: 06100213-01DMS	SampType: MS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 79723
Client ID:	Batch ID: R79723	TestNo: SW8260B		Analysis Date: 10/5/2006	SeqNo: 946830

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	27.11	1.0	25	0	108	73.1	130				
1,1,2-Trichloroethane	23.82	1.0	25	0	95.3	73.9	115				
1,1-Dichloroethene	27.89	1.0	25	0	112	73.3	134				
1,2-Dichlorobenzene	23.24	1.0	25	0	93.0	73.8	113				
1,2-Dichloroethane	24.35	1.0	25	0	97.4	60.7	132				
1,2-Dichloropropane	24.66	1.0	25	0	98.6	78.4	113				
1,4-Dichlorobenzene	23.64	1.0	25	0	94.6	72.7	112				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06100041
Project: MHP-ERP / Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 06100213-01DMS	SampType: MS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 79723
Client ID:	Batch ID: R79723	TestNo: SW8260B		Analysis Date: 10/6/2006	SeqNo: 946830

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	26.14	1.0	25	0	105	69.3	128				
Carbon tetrachloride	26.95	1.0	25	0	108	73.5	134				
Chlorobenzene	25.14	1.0	25	0	101	78.4	109				
cis-1,2-Dichloroethene	25.66	1.0	25	0	103	57.8	138				
Ethylbenzene	25.13	1.0	25	0	101	77.2	116				
Styrene	24.87	1.0	25	0	99.5	50.2	132				
Tetrachloroethene	24.92	1.0	25	0	99.7	73.8	126				
Toluene	25.28	1.0	25	0	101	75.6	119				
trans-1,2-Dichloroethene	26.39	1.0	25	0	105	76.8	123				
Trichloroethene	25.23	1.0	25	0	101	65.2	130				
Vinyl chloride	27.39	1.0	25	0	110	54.6	140				
Surr: 4-Bromofluorobenzene	25.72	0	25	0	103	63.3	123				
Surr: Dibromofluoromethane	25.41	0	25	0	102	62.8	120				
Surr: Toluene-d8	24.63	0	25	0	98.5	60	122				

Sample ID: 06100213-01DMSD	SampType: MSD	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 79723
Client ID:	Batch ID: R79723	TestNo: SW8260B		Analysis Date: 10/6/2006	SeqNo: 946831

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	26.31	1.0	25	0	105	73.1	130	27.11	3.00	25	
1,1,2-Trichloroethane	25.25	1.0	25	0	101	73.9	115	23.82	5.83	25	
1,1-Dichloroethene	26.80	1.0	25	0	107	73.3	134	27.89	3.99	25	
1,2-Dichlorobenzene	23.18	1.0	25	0	92.7	73.8	113	23.24	0.259	25	
1,2-Dichloroethane	25.42	1.0	25	0	102	60.7	132	24.35	4.30	25	
1,2-Dichloropropane	24.83	1.0	25	0	99.3	78.4	113	24.66	0.687	25	
1,4-Dichlorobenzene	22.78	1.0	25	0	91.1	72.7	112	23.64	3.71	25	
Benzene	25.42	1.0	25	0	102	69.3	128	26.14	2.79	25	
Carbon tetrachloride	26.78	1.0	25	0	107	73.5	134	26.95	0.633	25	
Chlorobenzene	23.81	1.0	25	0	95.2	78.4	109	25.14	5.43	25	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 0610004I
Project: MHP-ERP / Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 0610004I3-01DMSD	SampType: MSD	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 79723
Client ID:	Batch ID: R79723	TestNo: SW8260B		Analysis Date: 10/5/2006	SeqNo: 966831

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	25.15	1.0	25	0	101	57.8	138	25.66	2.01	25	
Ethylbenzene	23.82	1.0	25	0	95.3	77.2	116	25.13	5.35	25	
Styrene	24.08	1.0	25	0	96.3	50.2	132	24.87	3.23	25	
Tetrachloroethene	24.91	1.0	25	0	99.6	73.8	126	24.92	0.0401	25	
Toluene	24.84	1.0	25	0	99.4	75.6	119	25.28	1.76	25	
trans-1,2-Dichloroethene	25.55	1.0	25	0	102	76.8	123	26.33	3.01	25	
Trichloroethene	24.92	1.0	25	0	99.7	65.2	130	25.23	1.24	25	
Vinyl chloride	27.35	1.0	25	0	109	64.6	140	27.39	0.146	25	
Surr: 4-Bromofluorobenzene	26.75	0	25	0	103	83.3	123	25.72	0	0	
Surr: Dibromofluoromethane	26.41	0	25	0	106	82.8	120	25.41	0	0	
Surr: Toluene-d8	25.31	0	25	0	101	80	122	24.53	0	0	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06100041
Project: MHP-ERP / Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R79687	SampType: MBLK	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 79687
Client ID:	Batch ID: R79687	TestNo: E351.4		Analysis Date: 10/5/2006	SeqNo: 946396

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	<1.3	1.3									

Sample ID: LCS-R79687	SampType: LCS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 79687
Client ID:	Batch ID: R79687	TestNo: E351.4		Analysis Date: 10/5/2006	SeqNo: 946421

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	26.96	1.3	25	0	108	85	115				

Sample ID: LCSD-R79687	SampType: LCSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 79687
Client ID:	Batch ID: R79687	TestNo: E351.4		Analysis Date: 10/5/2006	SeqNo: 946422

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	22.88	1.3	25	0	91.5	85	115	26.95	16.4	20	

Sample ID: 06100041-01CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 79687
Client ID: HP-1	Batch ID: R79687	TestNo: E351.4		Analysis Date: 10/5/2006	SeqNo: 946398

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	24.20	1.3	25	0	96.8	70	130				

Sample ID: 06100139-02CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 79687
Client ID:	Batch ID: R79687	TestNo: E351.4		Analysis Date: 10/5/2006	SeqNo: 946459

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	59.05	1.3	25	35.68	93.5	70	130				

Qualifiers:
- E: Value above quantitation range
- H: Holding times for preparation or analysis exceeded
- J: Analyte detected below quantitation limits
- ND: Not Detected at the Reporting Limit
- R: RPD outside accepted recovery limits
- S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06100041
Project: MHP-ERP / Monthly-Qrtly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: 06100041-01CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 79687
Client ID: HP-1	Batch ID: R79687	TestNo: E351.4		Analysis Date: 10/5/2006	SeqNo: 946399

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	25.18	1.3	25	0	101	70	130	24.20	3.95	20	

Sample ID: 06100139-02CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 79687
Client ID:	Batch ID: R79687	TestNo: E351.4		Analysis Date: 10/5/2006	SeqNo: 946411

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	59.05	1.3	25	35.68	93.5	70	130	59.05	0	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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Aerotech Environmental Laboratories Sample Receipt Checklist Project checked by: _____

Laboratory Number: 06-10-0041	Checklist completed by: DBL 10/4/06
Client Name: Pima County	Signature/Date
Matrix: DW Carrier Name: J2	Date/Time Rec'd: 10/3/06 1121 By: RF

Temperature of Samples? 1.1 °C *Circle one:* Blue Ice Wet Ice Not Present

	Yes	No*	Not Present
Shipping container/cooler in good condition?	X		
Custody seals intact on shipping container/cooler?			X
Custody seals intact on sample containers?			X
Chain of Custody present and relinquished/received properly?	X		
Chain of Custody agrees with sample labels?	X		
Samples in proper containers/bottles?	X		
Sample containers intact?	X		
All samples received within holding time?	X		**See Comment about Chlorine and pH
Is there sufficient sample volume to perform the tests?	X		
40mL vials for volatiles & SOCs received with zero headspace?			X

Soil Containers:
Brass Sleeve____
Glass Jar____
Methanol____
Plastic Bag____
Encore Samplers____

Total number of bottles received: 6	IH sample media:
If applicable, how many sample bottles were shipped from AEL-Tucson?	N/A X

Number of containers received by preservative and by sample number: (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General															
B-HNO3	1														
C-H2SO4	2														
D-HCl	3														
E-Na2S2O3	3	Rc	10/4/06												
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? Yes ✓ No N/A

Preservative & pH		pH of samples upon receipt	If pH requires adjustment, list sample number, and reagent ID. number
Metals	<2	<2	
Nutrients	<2	<2	
Total Phenols	<2		
413 (O&G)	<2		
418 (TPH)	<2		
Cyanide	>12		
Sulfide	>9		

**Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.6. Continue on back if additional space is needed.*

***The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.*

Comments:

Aerotech Environmental Laboratories

an affiliate of Severn Trent Laboratories, Inc.

[ ] [illegible] W. 17th Street, Tempe, AZ 85281 (480) 967-1310 FAX (480) 967-1019
[ ] North Phoenix - 1501 W. Knudsen, Phoenix, AZ 85027 (623) 780-4700 FAX (623) 780-2934
[ ] Tucson - 4455 S. Park Ave, Suite 110, Tucson, AZ 85714 (520) 807-3801 FAX (520) 807-3803
www.palabs.com or call toll-free 1-866-7PALABS (1-866-772-5227)

Quote# K2311

Lab Number: 0600041

Customer Number: 1370913		Page 1 of 1	
Customer:	PIMA COUNTY FLOOD CONTROL DISTRICT	Sampler:	David Scalero
Address:	201 N. STONE AVE. 4TH FLOOR	Project Name:	MHP-ERP / Monthly-Qrtly
City, State, Zip:	Tucson AZ 85701	Project Number:	
Contact:	David Scalero	P.O. Number:	
Phone: (520) 740-6350	Fax: (520) 740-6749	Fax Results:	Y N
E-Mail Address:	david.scalero@dot.pima.gov	E-Mail Results:	(Y) N

Sample Type Codes

DW - Drinking Water; A - Air; WW - Waste Water; S - Soil; HW - Hazardous Waste; Other _____

Sample Receipt

Temperature 1.1 °C

Custody Seals: Yes ____ No ____

Custody Seals Intact: Yes ____ No ____

Total # of Containers: ____

Turn Around Request

____ 24 Hours ____ 48 Hours

____ 72 Hours

____ 5 Working Days

✓ Standard 10 Working Days

Subject to scheduling & availability (surcharges apply)

Analyses Requested

Sample Information

Lab #	Sample Identification	Date	Time	Type	Nitrate/Nitrite as-N	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	Metals (200.8) - As, Ba, Cd, Cr, Pb	- Sb, Be, Ni, Tl, Se	Mercury	8260B VOCs										# of sample Containers
	42.1	9-24-06	1040	DW	1	1	1	1	1	1	3										6

Instructions / Special Requirements: CLIENT WILL RESAMPLE FOR NO_2 / NO_3

Date:	Time:	Samples Relinquished By:	Received By:
9-24-06	1140	[illegible]	[illegible]
[illegible]	11:33	[illegible]	[illegible]
[illegible]	1131	[illegible]	[illegible]

Analysis performed is subject to the Terms & Conditions available at www.aeroenvirolabs.com or call 866.722.5227 to request a copy.

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Thursday, November 09, 2006

David Scalero
Pima County Flood Control
201 N. Stone, 4th Floor
Tucson, AZ 85701

TEL: (520) 740-6350
FAX

RE: MHP-ERP Monthly

Order No.: 06100924

Dear David Scalero:

Aerotech Environmental, Inc. received 2 sample(s) on 10/24/2006 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

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Sincerely,

Lawnie Heelan
Project Manager

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental, Inc. **Date:** *09-Nov-06*

CLIENT: Pima County Flood Control
Project: MHP-ERP Monthly
Lab Order: 06100924

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

- Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.
- Methods for the Determination of Organic Compounds in Drinking Water: Supplement III, EPA/600/R-95/131, August 1995.
- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.
- 40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.
- NIOSH Manual of Analytical Methods, Fourth Edition, 1994.
- Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:
All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Main Laboratory: 4625 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 888.772.8227 Fax: 623.445.6192 www.aerotechlabs.com
Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental, Inc.

Date: *09-Nov-06*

CLIENT: Pima County Flood Control
Project: MHP-ERP Monthly
Lab Order: 06100924

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
06100924-01C	Source Water		10/24/2006 10:00:00 AM	10/24/2006
06100924-02C	HP-1		10/24/2006 12:30:00 PM	10/24/2006

Main Laboratory: 4640 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 888.772.8227 Fax: 623.445.6192 www.aeroenvirolabs.com
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Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental, I **Analytical Report** **Date:** 09-Nov-06

CLIENT: Pima County Flood Control **Lab Order:** 06100924
Project: MHP-ERP Monthly

Lab ID: 06100924-01C **Collection Date:** 10/24/2006 10:00:00 AM
Client Sample ID: Source Water **Matrix:** WASTE WATER
Tag Number:

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: AT
Nitrogen, Nitrate/Nitrite Total	3.7	0.40		mg/L	1	11/2/2006 12:09:00 AM
NITROGEN, TOTAL KJELDAHL AS N		E351.4				Analyst: JLS
Nitrogen, Total Kjeldahl	23	1.3		mg/L	1	10/31/2006
NITROGEN, TOTAL		CALC				Analyst: LMc
Nitrogen, Total	27	1.7		mg/L	1	11/2/2006

Lab ID: 06100924-02C **Collection Date:** 10/24/2006 12:30:00 PM
Client Sample ID: HP-1 **Matrix:** DRINKING WATER
Tag Number:

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		E300				Analyst: AT
Nitrogen, Nitrate/Nitrite Total	2.8	0.40		mg/L	1	11/2/2006 12:27:00 AM
NITROGEN, TOTAL KJELDAHL AS N		E351.4				Analyst: JLS
Nitrogen, Total Kjeldahl	3.0	1.3		mg/L	1	10/31/2006
NITROGEN, TOTAL		CALC				Analyst: LMc
Nitrogen, Total	5.8	1.7		mg/L	1	11/2/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Main Laboratory: 4640 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aeroenvirolabs.com
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Aerotech Environmental Laboratories
a division of Aerotech Laboratories, Inc.

Aerotech Environmental, Inc.

09-Nov-06

Lab Order: 06100924
Client: Pima County Flood Control
Project: MHP-ERP Monthly

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
06100924-01C	Source Water	10/24/2006 10:00:00 AM	Waste Water	ANIONS by ION CHROMATOGRAPHY			11/3/2006 12:09:00 AM
				TOTAL KJELDAHL NITROGEN			10/31/2006
				Total Nitrogen (Calculated)			11/3/2006
06100924-02C	HP-1	10/24/2006 12:30:00 PM	Drinking Water	ANIONS by ION CHROMATOGRAPHY			11/3/2006 12:27:00 AM
				TOTAL KJELDAHL NITROGEN			10/31/2006
				Total Nitrogen (Calculated)			11/3/2006

■ Main Laboratory: 4625 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.8132 www.aerotechlabs.com
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Aerotech Environmental Laboratories

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Aerotech Environmental, Inc.

Date: 09-Nov-06

CLIENT: Pima County Flood Control
Work Order: 0610092A
Project: MHP-ERP Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MB-R60744	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 60744
Client ID:	Batch ID: R60744	TestNo: E300		Analysis Date: 11/1/2006	SeqNo: 959260

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	<0.40	0.40									

Sample ID: LCS-R60744	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 60744
Client ID:	Batch ID: R60744	TestNo: E300		Analysis Date: 11/1/2006	SeqNo: 959274

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.804	0.40	8	0	97.6	90	110				

Sample ID: LCSD-R60744	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 60744
Client ID:	Batch ID: R60744	TestNo: E300		Analysis Date: 11/1/2006	SeqNo: 959275

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.743	0.40	8	0	96.8	90	110	7.804	0.785	20	

Sample ID: 0610092A-01AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 60744
Client ID:	Batch ID: R60744	TestNo: E300		Analysis Date: 11/1/2006	SeqNo: 959284

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	9.080	0.40	8	0	114	80	120				

Sample ID: 0610092A-01AMSD	SampType: MSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 60744
Client ID:	Batch ID: R60744	TestNo: E300		Analysis Date: 11/1/2006	SeqNo: 959285

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	9.314	0.40	8	0	116	80	120	9.080	2.54	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3040 Toll Free: 866.772.6227 Fax: 623.445.8192 www.aerotechlabs.com
■ Tucson Facility: 4455 S. Park Ave. Ste. 100 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

CLIENT: Pima County Flood Control
Work Order: 06100924
Project: MHP-ERP Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R80652	SampType: MBLK	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 80652
Client ID:	Batch ID: R80652	TestNo: E351.4		Analysis Date: 10/31/2006	SeqNo: 958397

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	<1.3	1.3									

Sample ID: LCS-R80652	SampType: LCS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 80652
Client ID:	Batch ID: R80652	TestNo: E351.4		Analysis Date: 10/31/2006	SeqNo: 958398

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	27.68	1.3	25	0	111	85	115				

Sample ID: LCSD-R80652	SampType: LCSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 80652
Client ID:	Batch ID: R80652	TestNo: E351.4		Analysis Date: 10/31/2006	SeqNo: 958439

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	24.49	1.3	25	0	97.9	85	115	27.68	12.3	20	

Sample ID: 06100899-01CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 80652
Client ID:	Batch ID: R80652	TestNo: E351.4		Analysis Date: 10/31/2006	SeqNo: 958406

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	77.60	1.3	25	47.10	122	70	130				

Sample ID: 06100994-02CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 80652
Client ID:	Batch ID: R80652	TestNo: E351.4		Analysis Date: 10/31/2006	SeqNo: 958412

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	23.58	1.3	25	1.725	88.0	70	130				

Qualifiers:

- E Value above quantitation range
- ND Not Detected at the Reporting Limit
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4545 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aerotechlabs.com
■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

Aerotech Environmental Laboratories

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CLIENT: Pima County Flood Control
Work Order: 06100924
Project: MHP-ERP Monthly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: 06100898-01CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:		RunNo: 80652	
Client ID:	Batch ID: R80652	TestNo: E351.4		Analysis Date: 10/31/2006		SeqNo: 958481	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	73.29	1.3	26	47.10	105	70	130	77.60	5.73	20	

Sample ID: 06100994-02CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:		RunNo: 80652	
Client ID:	Batch ID: R80652	TestNo: E351.4		Analysis Date: 10/31/2006		SeqNo: 958413	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	24.18	1.3	25	1.725	89.8	70	130	23.98	0.831	20	

Qualifiers:

E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aerotechlabs.com
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Aerotech Environmental Laboratories
a division of Aerotech Laboratories, Inc.

PC RFCD
FEB 02 2007

Wednesday, January 31, 2007

David Scalero
Pima County Flood Control
97 E. Congress St., 3rd Floor
Tucson, AZ 85701

TEL: (520) 740-6350
FAX

RE: MHP-ERP / Monthly-Quarterly

Order No.: 06120322

Dear David Scalero:

Aerotech Environmental Laboratories received 3 sample(s) on 12/11/2006 for the analyses presented in the following report.

This report includes the following information:
- Case Narrative.
- Analytical Report: includes test results, report limit (Limit), any applicable data qualifier (Qual), units, dilution factor (DF), and date analyzed.
- QC Summary Report.

This communication is intended only for the individual or entity to whom it is directed. It may contain information that is privileged, confidential, or otherwise exempt from disclosure under applicable law. Dissemination, distribution, or copying of this communication by anyone other than the intended recipient, or a duly designated employee or agent of such recipient, is prohibited. If you have received this communication in error, please notify us immediately and destroy this message and all attachments thereto. If you have any questions regarding these test results, please do not hesitate to call.

Sincerely,

Lawnie Heelan
Project Manager

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental Laboratories **Date:** *31-Jan-07*

CLIENT: Pima County Flood Control
Project: MHP-ERP / Monthly-Quarterly
Lab Order: 06120322

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
06120322-01B	Source Water		12/11/2006 9:15:00 AM	12/11/2006
06120322-01C	Source Water		12/11/2006 9:15:00 AM	12/11/2006
06120322-01D	Source Water		12/11/2006 9:15:00 AM	12/11/2006
06120322-02B	HP-1		12/11/2006 11:55:00 AM	12/11/2006
06120322-02C	HP-1		12/11/2006 11:55:00 AM	12/11/2006
06120322-02D	HP-1		12/11/2006 11:55:00 AM	12/11/2006
06120322-03D	Trip Blank		12/11/2006	12/11/2006

Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.8192 www.aeroenvirolabs.com

Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental Laboratories **Date:** *31-Jan-07*

CLIENT: Pima County Flood Control
Project: MHP-ERP / Monthly-Quarterly
Lab Order: 06120322

CASE NARRATIVE

Samples were analyzed using methods outlined in references such as:

- Standard Methods for the Examination of Water and Wastewater, 19th Edition, 1995.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Revised March 1983.
- Methods for the Determination of Organic Compounds in Drinking Water: Supplement III, EPA/600/R-95/131, August 1995.
- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.
- 40 CFR, Part 136, Revised 1998. Appendix A to Part 136 - Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater.
- NIOSH Manual of Analytical Methods, Fourth Edition, 1994.
- Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, 1999.

Aerotech Environmental Laboratories (AEL) holds Arizona certification no. AZ0610.

Aerotech Environmental Laboratories (Laboratory ID 154268) is accredited by the American Industrial Hygiene Association (AIHA) in the industrial hygiene program for the analytical techniques noted on the scope of accreditation.

Analytical Comments:
All method blanks and laboratory control spikes met EPA method and/or laboratory quality control objectives for the analyses included in this report.

Data Qualifiers:
Listed below are the data qualifiers used in your analytical report to explain any analytical or quality control issues. You will find them noted in your report under the column header "QUAL". Any quality control deficiencies that cannot be adequately described by these qualifiers will be addressed in the analytical comments section of this case narrative.

D1 Sample required dilution due to matrix.
M6 Matrix spike recovery was high. Data reported per ADEQ policy 0154.00.

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Aerotech Environmental Laboratories

a division of Aerotech Laboratories, Inc.

Aerotech Environmental L **Analytical Report** **Date:** *31-Jan-07*

CLIENT: Pima County Flood Control **Lab Order:** 06120322
Project: MHP-ERP / Monthly-Quarterly

Lab ID: 06120322-01B **Collection Date:** 12/11/2006 9:15:00 AM
Client Sample ID: Source Water **Matrix:** WASTE WATER
Tag Number:

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP/MS METALS, TOTAL RECOVERABLE		**E200.8**				Analyst: **TD**
Antimony	< 0.0030	0.0030		mg/L	1	12/13/2006 10:37:12 AM
Arsenic	0.0042	0.0010		mg/L	1	12/13/2006 10:37:12 AM
Barium	0.060	0.0010		mg/L	1	12/13/2006 10:37:12 AM
Beryllium	< 0.0010	0.0010		mg/L	1	12/13/2006 10:37:12 AM
Cadmium	< 0.0010	0.0010		mg/L	1	12/13/2006 10:37:12 AM
Chromium	0.0013	0.0010		mg/L	1	12/13/2006 10:37:12 AM
Lead	0.0019	0.0010		mg/L	1	12/13/2006 10:37:12 AM
Nickel	0.0048	0.0010		mg/L	1	12/13/2006 10:37:12 AM
Selenium	< 0.0020	0.0020		mg/L	1	12/13/2006 10:37:12 AM
Thallium	< 0.0010	0.0010		mg/L	1	12/13/2006 10:37:12 AM
MERCURY, TOTAL		**E245.1**				Analyst: **PC**
Mercury	< 0.00020	0.00020		mg/L	1	12/21/2006

Lab ID: 06120322-01C **Collection Date:** 12/11/2006 9:15:00 AM
Client Sample ID: Source Water **Matrix:** WASTE WATER
Tag Number:

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **AT**
Nitrogen, Nitrate/Nitrite Total	3.8	0.80	D1	mg/L	2	12/27/2006 1:15:00 PM
NITROGEN, TOTAL KJELDAHL AS N		**E351.4**				Analyst: **JLS**
Nitrogen, Total Kjeldahl	19	1.3		mg/L	1	12/14/2006
NITROGEN, TOTAL		**CALC**				Analyst: **RF**
Nitrogen, Total	23	1.7		mg/L	1	12/28/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory
(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aerotechlabs.com

Aerotech Environmental L Analytical Report Date: *31-Jan-07*

CLIENT: Pima County Flood Control **Lab Order:** 06120322
Project: MHP-ERP / Monthly-Quarterly

Lab ID: 06120322-01D **Collection Date:** 12/11/2006 9:15:00 AM
Client Sample ID: Source Water **Matrix:** WASTE WATER
Tag Number:

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY GC/MS		**SW8260B**				Analyst: k m
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	12/13/2006
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	12/13/2006
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	12/13/2006
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	12/13/2006
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	12/13/2006
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	12/13/2006
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	12/13/2006
Benzene	< 1.0	1.0		µg/L	1	12/13/2006
Carbon tetrachloride	< 1.0	1.0		µg/L	1	12/13/2006
Chlorobenzene	< 1.0	1.0		µg/L	1	12/13/2006
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	12/13/2006
Ethylbenzene	< 1.0	1.0		µg/L	1	12/13/2006
Styrene	< 1.0	1.0		µg/L	1	12/13/2006
Tetrachloroethene	< 1.0	1.0		µg/L	1	12/13/2006
Toluene	< 1.0	1.0		µg/L	1	12/13/2006
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	12/13/2006
Trichloroethene	< 1.0	1.0		µg/L	1	12/13/2006
Trihalomethanes, Total	< 1.0	1.0		µg/L	1	12/13/2006
Vinyl chloride	< 1.0	1.0		µg/L	1	12/13/2006
Xylenes, Total	< 2.0	2.0		µg/L	1	12/13/2006
Surr: 4-Bromofluorobenzene	97.8	63.3-123		%REC	1	12/13/2006
Surr: Dibromofluoromethane	117	62.8-120		%REC	1	12/13/2006
Surr: Toluene-d8	101	60-122		%REC	1	12/13/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Phoenix Laboratory: 4625 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aerenvirolabs.com

CLIENT: Pima County Flood Control **Lab Order:** 06120322
Project: MHP-ERP / Monthly-Quarterly

Lab ID: 06120322-02B **Collection Date:** 12/11/2006 11:55:00 AM
Client Sample ID: HP-1 **Matrix:** DRINKING WATER
Tag Number:

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP/MS METALS, TOTAL RECOVERABLE		**E200.8**				Analyst: **TD**
Antimony	< 0.0030	0.0030		mg/L	1	12/13/2006 10:25:07 AM
Arsenic	0.0014	0.0010		mg/L	1	12/13/2006 10:25:07 AM
Barium	0.15	0.0010		mg/L	1	12/13/2006 10:25:07 AM
Beryllium	< 0.0010	0.0010		mg/L	1	12/13/2006 10:25:07 AM
Cadmium	< 0.0010	0.0010		mg/L	1	12/13/2006 10:25:07 AM
Chromium	< 0.0010	0.0010		mg/L	1	12/13/2006 10:25:07 AM
Lead	< 0.0010	0.0010		mg/L	1	12/13/2006 10:25:07 AM
Nickel	0.0092	0.0010		mg/L	1	12/13/2006 10:25:07 AM
Selenium	< 0.0020	0.0020		mg/L	1	12/13/2006 10:25:07 AM
Thallium	< 0.0010	0.0010		mg/L	1	12/13/2006 10:25:07 AM
MERCURY, TOTAL		**E245.1**				Analyst: **PC**
Mercury	< 0.00020	0.00020		mg/L	1	12/21/2006

Lab ID: 06120322-02C **Collection Date:** 12/11/2006 11:55:00 AM
Client Sample ID: HP-1 **Matrix:** DRINKING WATER
Tag Number:

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY		**E300**				Analyst: **AT**
Nitrogen, Nitrate/Nitrite Total	2.3	0.40		mg/L	1	12/22/2006 4:29:00 PM
NITROGEN, TOTAL KJELDAHL AS N		**E351.4**				Analyst: **JLS**
Nitrogen, Total Kjeldahl	< 1.3	1.3		mg/L	1	12/14/2006
NITROGEN, TOTAL		**CALC**				Analyst: **RF**
Nitrogen, Total	2.3	1.7		mg/L	1	12/28/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aerotechlabs.com

Aerotech Environmental L **Analytical Report** **Date:** *31-Jan-07*

CLIENT: Pima County Flood Control **Lab Order:** 06120322
Project: MHP-ERP / Monthly-Quarterly

Lab ID: 06120322-02D **Collection Date:** 12/11/2006 11:55:00 AM
Client Sample ID: HP-1 **Matrix:** DRINKING WATER
Tag Number:

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY GC/MS		**SW8260B**				Analyst: k m
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	12/13/2006
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	12/13/2006
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	12/13/2006
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	12/13/2006
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	12/13/2006
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	12/13/2006
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	12/13/2006
Benzene	< 1.0	1.0		µg/L	1	12/13/2006
Carbon tetrachloride	< 1.0	1.0		µg/L	1	12/13/2006
Chlorobenzene	< 1.0	1.0		µg/L	1	12/13/2006
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	12/13/2006
Ethylbenzene	< 1.0	1.0		µg/L	1	12/13/2006
Styrene	< 1.0	1.0		µg/L	1	12/13/2006
Tetrachloroethene	< 1.0	1.0		µg/L	1	12/13/2006
Toluene	< 1.0	1.0		µg/L	1	12/13/2006
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	12/13/2006
Trichloroethene	< 1.0	1.0		µg/L	1	12/13/2006
Trihalomethanes, Total	< 1.0	1.0		µg/L	1	12/13/2006
Vinyl chloride	< 1.0	1.0		µg/L	1	12/13/2006
Xylenes, Total	< 2.0	2.0		µg/L	1	12/13/2006
Surr: 4-Bromofluorobenzene	99.1	63.3-123		%REC	1	12/13/2006
Surr: Dibromofluoromethane	116	62.8-120		%REC	1	12/13/2006
Surr: Toluene-d8	101	60-122		%REC	1	12/13/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Aerotech Environmental L. Analytical Report

Date: *31-Jan-07*

CLIENT: Pima County Flood Control
Project: MHP-ERP / Monthly-Quarterly
Lab Order: 06120322

Lab ID: 06120322-03D
Collection Date: 12/11/2006
Client Sample ID: Trip Blank
Matrix: TRIP BLANK
Tag Number:

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILES BY GC/MS		**SW8260B**				Analyst: k m
1,1,1-Trichloroethane	< 1.0	1.0		µg/L	1	12/13/2006
1,1,2-Trichloroethane	< 1.0	1.0		µg/L	1	12/13/2006
1,1-Dichloroethene	< 1.0	1.0		µg/L	1	12/13/2006
1,2-Dichlorobenzene	< 1.0	1.0		µg/L	1	12/13/2006
1,2-Dichloroethane	< 1.0	1.0		µg/L	1	12/13/2006
1,2-Dichloropropane	< 1.0	1.0		µg/L	1	12/13/2006
1,4-Dichlorobenzene	< 1.0	1.0		µg/L	1	12/13/2006
Benzene	< 1.0	1.0		µg/L	1	12/13/2006
Carbon tetrachloride	< 1.0	1.0		µg/L	1	12/13/2006
Chlorobenzene	< 1.0	1.0		µg/L	1	12/13/2006
cis-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	12/13/2006
Ethylbenzene	< 1.0	1.0		µg/L	1	12/13/2006
Styrene	< 1.0	1.0		µg/L	1	12/13/2006
Tetrachloroethene	< 1.0	1.0		µg/L	1	12/13/2006
Toluene	< 1.0	1.0		µg/L	1	12/13/2006
trans-1,2-Dichloroethene	< 1.0	1.0		µg/L	1	12/13/2006
Trichloroethene	< 1.0	1.0		µg/L	1	12/13/2006
Trihalomethanes, Total	< 1.0	1.0		µg/L	1	12/13/2006
Vinyl chloride	< 1.0	1.0		µg/L	1	12/13/2006
Xylenes, Total	< 2.0	2.0		µg/L	1	12/13/2006
Surr: 4-Bromofluorobenzene	98.7	63.3-123		%REC	1	12/13/2006
Surr: Dibromofluoromethane	111	62.8-120		%REC	1	12/13/2006
Surr: Toluene-d8	98.2	60-122		%REC	1	12/13/2006

Footnotes: All analysis performed at AEL Phoenix laboratory unless indicated by footnotes.
(1) AEL - Tucson Laboratory
(2) AEL - Knudsen Laboratory

(3) The holding time for pH analysis is immediate. For the most accurate result, the pH should be taken in the field within 15 minutes of sampling.

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Aerotech Environmental Laboratories
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Aerotech Environmental Laboratories

31-Jan-07

Lab Order: 0612032
Client: Pima County Flood Control
Project: MHP-ERP / Monthly-Quarterly

DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0612032-01B	Source Water	12/11/2006 9:15:00 AM	Waste Water	ICP/MS METALS, TOTAL RECOVERABLE		12/12/2006 3:06:57 PM	12/13/2006 10:37:12 AM
0612032-01C				MERCURY IN WATERS		12/21/2006 10:00:00 AM	12/21/2006
				ANIONS by ION CHROMATOGRAPHY			12/27/2006 1:15:00 PM
				TOTAL KJELDAHL NITROGEN			12/14/2006
				Total Nitrogen (Calculated)			12/28/2006
0612032-01D				VOLATILES by GC/MS			12/13/2006
0612032-02B	HP-1	12/11/2006 11:55:00 AM	Drinking Water	ICP/MS METALS, TOTAL RECOVERABLE		12/12/2006 3:06:57 PM	12/13/2006 10:25:07 AM
0612032-02C				MERCURY IN WATERS		12/21/2006 10:00:00 AM	12/21/2006
				ANIONS by ION CHROMATOGRAPHY			12/22/2006 4:29:00 PM
				TOTAL KJELDAHL NITROGEN			12/14/2006
				Total Nitrogen (Calculated)			12/28/2006
0612032-02D				VOLATILES by GC/MS			12/13/2006
0612032-03D	Trip Blank	12/11/2006	Trip Blank	VOLATILES by GC/MS			12/13/2006

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Aerotech Environmental Laboratories

Date: *31-Jan-07*

CLIENT: Pima County Flood Control
Work Order: 06120322
Project: MHP-ERP / Monthly-Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: MB-27980	SampType: MBLK	TestCode: 200.8	Units: mg/L	Prep Date: 12/12/2006	RunNo: 82097
Client ID:	Batch ID: 27980	TestNo: E200.8		Analysis Date: 12/13/2006	SeqNo: 975213

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	<0.0030	0.0030									
Arsenic	<0.0010	0.0010									
Barium	<0.0010	0.0010									
Beryllium	<0.0010	0.0010									
Cadmium	<0.0010	0.0010									
Chromium	<0.0010	0.0010									
Lead	<0.0010	0.0010									
Nickel	<0.0010	0.0010									
Selenium	<0.0020	0.0020									
Thallium	<0.0010	0.0010									

Sample ID: LCS-27980	SampType: LCS	TestCode: 200.8	Units: mg/L	Prep Date: 12/12/2006	RunNo: 82097
Client ID:	Batch ID: 27980	TestNo: E200.8		Analysis Date: 12/13/2006	SeqNo: 975211

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1020	0.0030	0.1	0	102	85	115				
Arsenic	0.09862	0.0010	0.1	0	98.6	85	115				
Barium	0.1074	0.0010	0.1	0	107	85	115				
Beryllium	0.1085	0.0010	0.1	0	108	85	115				
Cadmium	0.1047	0.0010	0.1	0	105	85	115				
Chromium	0.09689	0.0010	0.1	0	96.9	85	115				
Lead	0.09798	0.0010	0.1	0	98.0	85	115				
Nickel	0.09921	0.0010	0.1	0	99.2	85	115				
Selenium	0.1001	0.0020	0.1	0	100	85	115				
Thallium	0.09240	0.0010	0.1	0	92.4	85	115				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06120322
Project: MHP-ERP / Monthly-Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: LCSD-27980	SampType: LCSD	TestCode: 200.8	Units: mg/L	Prep Date: 12/12/2006	RunNo: 82097
Client ID:	Batch ID: 27980	TestNo: E200.8		Analysis Date: 12/13/2006	SeqNo: 975212

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1036	0.0030	0.1	0	104	85	115	0.1020	1.50	20	
Arsenic	0.09836	0.0010	0.1	0	98.4	85	115	0.09862	0.269	20	
Barium	0.1077	0.0010	0.1	0	108	85	115	0.1074	0.283	20	
Beryllium	0.1077	0.0010	0.1	0	108	85	115	0.1085	0.754	20	
Cadmium	0.1059	0.0010	0.1	0	106	85	115	0.1047	1.09	20	
Chromium	0.09764	0.0010	0.1	0	97.6	85	115	0.09689	0.773	20	
Lead	0.09754	0.0010	0.1	0	97.5	85	115	0.09798	0.449	20	
Nickel	0.09891	0.0010	0.1	0	98.9	85	115	0.09921	0.302	20	
Selenium	0.09923	0.0020	0.1	0	99.2	85	115	0.1001	0.897	20	
Thallium	0.08916	0.0010	0.1	0	89.2	85	115	0.09240	3.56	20	

Sample ID: 06120322-02B MS	SampType: MS	TestCode: 200.8	Units: mg/L	Prep Date: 12/12/2006	RunNo: 82097
Client ID: HP-1	Batch ID: 27980	TestNo: E200.8		Analysis Date: 12/13/2006	SeqNo: 975194

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1064	0.0030	0.1	0	106	70	130				
Arsenic	0.1042	0.0010	0.1	0.001433	103	70	130				
Barium	0.2528	0.0010	0.1	0.1492	104	70	130				
Beryllium	0.1196	0.0010	0.1	0	120	70	130				
Cadmium	0.1036	0.0010	0.1	0	104	70	130				
Chromium	0.09642	0.0010	0.1	0	96.4	70	130				
Lead	0.09514	0.0010	0.1	0	95.1	70	130				
Nickel	0.1022	0.0010	0.1	0.009190	93.0	70	130				
Selenium	0.1009	0.0020	0.1	0	101	70	130				
Thallium	0.08701	0.0010	0.1	0	87.0	70	130				

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
I Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06120322
Project: MHP-ERP / Monthly-Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: 06120340-02B MS	SampType: MS	TestCode: 200.8	Units: mg/L	Prep Date: 12/12/2006	RunNo: 82097
Client ID:	Batch ID: 27980	TestNo: E200.8		Analysis Date: 12/13/2006	SeqNo: 975200

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1079	0.0030	0.1	0	108	70	130				
Arsenic	0.1120	0.0010	0.1	0.01136	101	70	130				
Barium	0.2653	0.0010	0.1	0.1599	105	70	130				
Beryllium	0.1135	0.0010	0.1	0	113	70	130				
Cadmium	0.1061	0.0010	0.1	0	106	70	130				
Chromium	0.09498	0.0010	0.1	0	95.0	70	130				
Lead	0.09694	0.0010	0.1	0	96.9	70	130				
Nickel	0.09542	0.0010	0.1	0	95.4	70	130				
Selenium	0.1007	0.0020	0.1	0	101	70	130				
Thallium	0.08926	0.0010	0.1	0	89.3	70	130				

Sample ID: 06120322-02B MSD	SampType: MSD	TestCode: 200.8	Units: mg/L	Prep Date: 12/12/2006	RunNo: 82097
Client ID: HP-1	Batch ID: 27980	TestNo: E200.8		Analysis Date: 12/13/2006	SeqNo: 975195

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1071	0.0030	0.1	0	107	70	130	0.1064	0.653	15	
Arsenic	0.1045	0.0010	0.1	0.001433	103	70	130	0.1042	0.280	15	
Barium	0.2606	0.0010	0.1	0.1492	111	70	130	0.2528	3.02	15	
Beryllium	0.1229	0.0010	0.1	0	123	70	130	0.1196	2.78	15	
Cadmium	0.1041	0.0010	0.1	0	104	70	130	0.1036	0.484	15	
Chromium	0.1019	0.0010	0.1	0	102	70	130	0.09642	5.52	15	
Lead	0.09516	0.0010	0.1	0	95.2	70	130	0.09514	0.0200	15	
Nickel	0.1021	0.0010	0.1	0.009190	92.9	70	130	0.1022	0.105	15	
Selenium	0.1039	0.0020	0.1	0	104	70	130	0.1009	2.82	15	
Thallium	0.08878	0.0010	0.1	0	88.8	70	130	0.08701	0.273	15	

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06120322
Project: MHP-ERP / Monthly-Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8

Sample ID: 06120348-02B MSD	SampType: MSD	TestCode: 200.8	Units: mg/L	Prep Date: 12/12/2006	RunNo: 82997
Client ID:	Batch ID: 27980	TestNo: E200.8		Analysis Date: 12/13/2006	SeqNo: 975201

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.1073	0.0030	0.1	0	107	70	130	0.1079	0.586	15	
Arsenic	0.1128	0.0010	0.1	0.01136	101	70	130	0.1120	0.691	15	
Barium	0.2653	0.0010	0.1	0.1599	105	70	130	0.2653	0.0106	15	
Beryllium	0.1140	0.0010	0.1	0	114	70	130	0.1135	0.414	15	
Cadmium	0.1057	0.0010	0.1	0	106	70	130	0.1061	0.397	15	
Chromium	0.09586	0.0010	0.1	0	95.9	70	130	0.09498	0.917	15	
Lead	0.09772	0.0010	0.1	0	97.7	70	130	0.09694	0.806	15	
Nickel	0.09524	0.0010	0.1	0	95.2	70	130	0.09542	0.185	15	
Selenium	0.1010	0.0020	0.1	0	101	70	130	0.1007	0.290	15	
Thallium	0.08968	0.0010	0.1	0	89.7	70	130	0.08926	0.462	15	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06120322
Project: MHP-ERP / Monthly-Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_W

Sample ID: MB-28066	SampType: MBLK	TestCode: 245.1_W	Units: mg/L	Prep Date: 12/21/2006	RunNo: 82404
Client ID:	Batch ID: 28066	TestNo: E245.1		Analysis Date: 12/21/2006	SeqNo: 979012

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	<0.00020	0.00020									

Sample ID: LCS-28066	SampType: LCS	TestCode: 245.1_W	Units: mg/L	Prep Date: 12/21/2006	RunNo: 82404
Client ID:	Batch ID: 28066	TestNo: E245.1		Analysis Date: 12/21/2006	SeqNo: 979013

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009670	0.00020	0.01	0	96.7	85	115				

Sample ID: LCSD-28066	SampType: LCSD	TestCode: 245.1_W	Units: mg/L	Prep Date: 12/21/2006	RunNo: 82404
Client ID:	Batch ID: 28066	TestNo: E245.1		Analysis Date: 12/21/2006	SeqNo: 979014

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009310	0.00020	0.01	0	93.1	85	115	0.009670	3.79	20	

Sample ID: 06120285-01BMS	SampType: MS	TestCode: 245.1_W	Units: mg/L	Prep Date: 12/21/2006	RunNo: 82404
Client ID:	Batch ID: 28066	TestNo: E245.1		Analysis Date: 12/21/2006	SeqNo: 979016

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009410	0.00020	0.01	0	94.1	70	130				

Sample ID: 06120319-01BMS	SampType: MS	TestCode: 245.1_W	Units: mg/L	Prep Date: 12/21/2006	RunNo: 82404
Client ID:	Batch ID: 28066	TestNo: E245.1		Analysis Date: 12/21/2006	SeqNo: 979028

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009170	0.00020	0.01	0	91.7	70	130				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

CLIENT: Pima County Flood Control
Work Order: 06120322
Project: MHP-ERP / Monthly-Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_W

Sample ID: 06120285-01BMSD	SampType: MSD	TestCode: 245.1_W	Units: mg/L	Prep Date: 12/21/2006	RunNo: 82484
Client ID:	Batch ID: 28066	TestNo: E245.1		Analysis Date: 12/21/2006	SeqNo: 979617

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009220	0.00020	0.01	0	92.2	70	130	0.009410	2.04	20	

Sample ID: 06120319-01BMSD	SampType: MSD	TestCode: 245.1_W	Units: mg/L	Prep Date: 12/21/2006	RunNo: 82484
Client ID:	Batch ID: 28066	TestNo: E245.1		Analysis Date: 12/21/2006	SeqNo: 979629

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.009500	0.00020	0.01	0	95.0	70	130	0.009170	3.54	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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Aerotech Environmental Laboratories
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CLIENT: Pima County Flood Control
Work Order: 06120322
Project: MHP-ERP / Monthly-Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MB-R82495	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 82495
Client ID:	Batch ID: R82495	TestNo: E300		Analysis Date: 12/22/2006	SeqNo: 980313

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	<0.40	0.40									

Sample ID: MB-R82528	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 82528
Client ID:	Batch ID: R82528	TestNo: E300		Analysis Date: 12/27/2006	SeqNo: 980758

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	<0.40	0.40									

Sample ID: LCS-R82495	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 82495
Client ID:	Batch ID: R82495	TestNo: E300		Analysis Date: 12/22/2006	SeqNo: 980314

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.995	0.40	8	0	99.9	90	110				

Sample ID: LCS-R82528	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 82528
Client ID:	Batch ID: R82528	TestNo: E300		Analysis Date: 12/27/2006	SeqNo: 980759

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	8.004	0.40	8	0	100	90	110				

Sample ID: LCSD-R82495	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 82495
Client ID:	Batch ID: R82495	TestNo: E300		Analysis Date: 12/22/2006	SeqNo: 980327

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	7.992	0.40	8	0	99.9	90	110	7.995	0.0375	20	

Qualifiers:

E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06120322
Project: MHP-ERP / Monthly-Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: LCSD-R82528	SampType: LCSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 82528
Client ID:	Batch ID: R82528	TestNo: E300		Analysis Date: 12/27/2006	SeqNo: 980778

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	8.051	0.40	8	0	101	90	110	8.004	0.585	20	

Sample ID: 06120671-01AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 82495
Client ID:	Batch ID: R82495	TestNo: E300		Analysis Date: 12/22/2006	SeqNo: 980323

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	10.37	0.40	8	2.491	98.5	80	120				

Sample ID: 06120695-01AMS	SampType: MS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 82528
Client ID:	Batch ID: R82528	TestNo: E300		Analysis Date: 12/27/2006	SeqNo: 980767

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	11.35	0.40	8	0	142	80	120				M6

Sample ID: 06120671-01AMSD	SampType: MSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 82495
Client ID:	Batch ID: R82495	TestNo: E300		Analysis Date: 12/22/2006	SeqNo: 980324

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	10.39	0.40	8	2.491	98.7	80	120	10.37	0.193	20	

Sample ID: 06120695-01AMSD	SampType: MSD	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 82528
Client ID:	Batch ID: R82528	TestNo: E300		Analysis Date: 12/27/2006	SeqNo: 980768

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate/Nitrite Total	10.91	0.40	8	0	136	80	120	11.35	4.01	20	M6

Qualifiers:

E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06120322
Project: MHP-ERP / Monthly-Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: MB-R82127	SampType: MBLK	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 82127
Client ID:	Batch ID: R82127	TestNo: SW8260B		Analysis Date: 12/13/2006	SeqNo: 975539

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	<1.0	1.0									
1,1,2-Trichloroethane	<1.0	1.0									
1,1-Dichloroethene	<1.0	1.0									
1,2-Dichlorobenzene	<1.0	1.0									
1,2-Dichloroethane	<1.0	1.0									
1,2-Dichloropropane	<1.0	1.0									
1,4-Dichlorobenzene	<1.0	1.0									
Benzene	<1.0	1.0									
Carbon tetrachloride	<1.0	1.0									
Chlorobenzene	<1.0	1.0									
cis-1,2-Dichloroethene	<1.0	1.0									
Ethylbenzene	<1.0	1.0									
Styrene	<1.0	1.0									
Tetrachloroethene	<1.0	1.0									
Toluene	<1.0	1.0									
trans-1,2-Dichloroethene	<1.0	1.0									
Trichloroethene	<1.0	1.0									
Trihalomethanes, Total	<1.0	1.0									
Vinyl chloride	<1.0	1.0									
Xylenes, Total	<2.0	2.0									
Surr: 4-Bromofluorobenzene	25.64	0	25	0	103	61.9	124				
Surr: Dibromofluoromethane	27.74	0	25	0	111	63.1	119				
Surr: Toluene-d8	24.42	0	25	0	97.7	61.8	120				

Sample ID: LCS-R82127	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 82127
Client ID:	Batch ID: R82127	TestNo: SW8260B		Analysis Date: 12/13/2006	SeqNo: 975540

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	28.17	1.0	25	0	113	72.5	131				

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06120322
Project: MHP-ERP / Monthly-Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: LCS-R82127	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 82127
Client ID:	Batch ID: R82127	TestNo: SW8260B		Analysis Date: 12/13/2006	SeqNo: 975540

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloroethane	25.92	1.0	25	0	104	78.2	120				
1,1-Dichloroethene	24.48	1.0	25	0	97.9	76.1	127				
1,2-Dichlorobenzene	24.51	1.0	25	0	98.0	78	115				
1,2-Dichloroethane	29.87	1.0	25	0	119	64	137				
1,2-Dichloropropane	25.51	1.0	25	0	102	82.2	115				
1,4-Dichlorobenzene	23.21	1.0	25	0	92.8	77.4	113				
Benzene	25.52	1.0	25	0	102	75.9	124				
Carbon tetrachloride	28.06	1.0	25	0	112	72	134				
Chlorobenzene	24.05	1.0	25	0	96.2	82.5	110				
cis-1,2-Dichloroethene	25.02	1.0	25	0	100	78.9	119				
Ethylbenzene	25.08	1.0	25	0	100	81.4	115				
Styrene	25.71	1.0	25	0	103	80.8	119				
Tetrachloroethene	24.47	1.0	25	0	97.9	78.6	123				
Toluene	23.64	1.0	25	0	94.6	80.8	116				
trans-1,2-Dichloroethene	24.79	1.0	25	0	99.2	77.7	122				
Trichloroethene	23.92	1.0	25	0	95.7	80.7	115				
Vinyl chloride	25.12	1.0	25	0	100	74.4	126				
Surr: 4-Bromofluorobenzene	25.96	0	25	0	104	61.9	124				
Surr: Dibromofluoromethane	28.37	0	25	0	113	63.1	119				
Surr: Toluene-d8	25.00	0	25	0	100	61.8	120				

Sample ID: LCSD-R82127	SampType: LCSD	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 82127
Client ID:	Batch ID: R82127	TestNo: SW8260B		Analysis Date: 12/13/2006	SeqNo: 975541

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	29.18	1.0	25	0	117	72.5	131	28.17	3.45	25	
1,1,2-Trichloroethane	26.67	1.0	25	0	107	78.2	120	25.92	2.85	25	
1,1-Dichloroethene	25.60	1.0	25	0	102	76.1	127	24.48	4.47	25	
1,2-Dichlorobenzene	25.34	1.0	25	0	101	78	115	24.51	3.33	25	

Qualifiers:
E: Value above quantitation range
H: Holding times for preparation or analysis exceeded
J: Analyte detected below quantitation limits
ND: Not Detected at the Reporting Limit
R: RPD outside accepted recovery limits
S: Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06120322
Project: MHP-ERP / Monthly-Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: LCSD-R82127	SampType: LCSD	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 82127
Client ID:	Batch ID: R82127	TestNo: SW8260B		Analysis Date: 12/13/2006	SeqNo: 975541

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane	29.82	1.0	25	0	119	64	137	29.87	0.168	25	
1,2-Dichloropropane	26.24	1.0	25	0	105	82.2	115	25.51	2.82	25	
1,4-Dichlorobenzene	24.16	1.0	25	0	96.6	77.4	113	23.21	4.01	25	
Benzene	25.19	1.0	25	0	101	75.9	124	25.52	1.30	25	
Carbon tetrachloride	29.30	1.0	25	0	117	72	134	28.06	4.32	25	
Chlorobenzene	25.15	1.0	25	0	101	82.5	110	24.05	4.47	25	
cis-1,2-Dichloroethene	25.53	1.0	25	0	102	78.9	119	25.02	2.02	25	
Ethylbenzene	26.32	1.0	25	0	105	81.4	115	25.06	4.82	25	
Styrene	27.18	1.0	25	0	109	80.8	119	25.71	5.56	25	
Tetrachloroethene	25.84	1.0	25	0	103	78.6	123	24.47	5.45	25	
Toluene	25.03	1.0	25	0	100	80.8	116	23.64	5.71	25	
trans-1,2-Dichloroethene	25.77	1.0	25	0	103	77.7	122	24.79	3.88	25	
Trichloroethene	26.00	1.0	25	0	104	80.7	115	23.92	8.33	25	
Vinyl chloride	26.99	1.0	25	0	108	74.4	129	25.12	7.18	25	
Surr: 4-Bromofluorobenzene	26.37	0	25	0	105	61.9	124	25.96	0	0	
Surr: Dibromofluoromethane	27.83	0	25	0	111	63.1	119	28.37	0	0	
Surr: Toluene-d8	25.30	0	25	0	101	61.8	120	25.00	0	0	

Sample ID: 06120367-07 MS	SampType: MS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 82127
Client ID:	Batch ID: R82127	TestNo: SW8260B		Analysis Date: 12/13/2006	SeqNo: 975542

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	30.15	1.0	25	0	121	73.1	130				
1,1,2-Trichloroethane	26.04	1.0	25	0	104	73.9	115				
1,1-Dichloroethene	27.64	1.0	25	0	111	73.3	134				
1,2-Dichlorobenzene	24.91	1.0	25	0	99.6	73.8	113				
1,2-Dichloroethane	29.62	1.0	25	0	118	60.7	132				
1,2-Dichloropropane	25.89	1.0	25	0	104	78.4	113				
1,4-Dichlorobenzene	24.21	1.0	25	0	96.8	72.7	112				

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06120322
Project: MHP-ERP / Monthly-Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 06120367-07 MS	SampType: MS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 82127
Client ID:	Batch ID: R82127	TestNo: SW8260B		Analysis Date: 12/13/2006	SeqNo: 975542

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	26.26	1.0	25	0	105	69.3	128				
Carbon tetrachloride	30.73	1.0	25	0	123	73.5	134				
Chlorobenzene	24.80	1.0	25	0	99.2	78.4	109				
cis-1,2-Dichloroethene	26.41	1.0	25	0	106	57.8	138				
Ethylbenzene	26.31	1.0	25	0	105	77.2	116				
Styrene	18.12	1.0	25	0	72.5	50.2	132				
Tetrachloroethene	26.30	1.0	25	0	105	73.8	125				
Toluene	25.20	1.0	25	0	101	75.6	119				
trans-1,2-Dichloroethene	26.81	1.0	25	0	107	76.8	123				
Trichloroethene	25.95	1.0	25	0	104	65.2	130				
Vinyl chloride	29.21	1.0	25	0	117	64.6	140				
Surr: 4-Bromofluorobenzene	26.42	0	25	0	106	63.3	123				
Surr: Dibromofluoromethane	27.24	0	25	0	109	62.8	120				
Surr: Toluene-d8	25.08	0	25	0	100	80	122				

Sample ID: 06120367-07D MSD	SampType: MSD	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 82127
Client ID:	Batch ID: R82127	TestNo: SW8260B		Analysis Date: 12/13/2006	SeqNo: 975543

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	27.78	1.0	25	0	111	73.1	130	30.15	8.18	25	
1,1,2-Trichloroethane	25.62	1.0	25	0	102	73.9	115	26.04	1.63	25	
1,1-Dichloroethene	25.29	1.0	25	0	101	73.3	134	27.64	8.88	25	
1,2-Dichlorobenzene	24.08	1.0	25	0	96.3	73.8	113	24.91	3.39	25	
1,2-Dichloroethane	28.64	1.0	25	0	115	60.7	132	29.62	3.36	25	
1,2-Dichloropropane	25.34	1.0	25	0	101	78.4	113	25.89	2.15	25	
1,4-Dichlorobenzene	23.22	1.0	25	0	92.9	72.7	112	24.21	4.17	25	
Benzene	25.33	1.0	25	0	101	69.3	128	26.26	3.61	25	
Carbon tetrachloride	28.76	1.0	25	0	115	73.5	134	30.73	6.62	25	
Chlorobenzene	23.78	1.0	25	0	95.1	78.4	109	24.80	4.20	25	

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06120322
Project: MHP-ERP / Monthly-Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 06120367-07D MSD SampType: MSD TestCode: 8260_W Units: µg/L Prep Date: RunNo: 82127
Client ID: Batch ID: R82127 TestNo: SW8260B Analysis Date: 12/13/2006 SeqNo: 978543

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	25.19	1.0	25	0	101	57.8	138	26.41	4.73	25	
Ethylbenzene	25.07	1.0	25	0	100	77.2	116	26.31	4.83	25	
Styrene	19.27	1.0	25	0	77.1	50.2	132	18.12	6.15	25	
Tetrachloroethene	24.88	1.0	25	0	99.5	73.8	126	26.30	5.55	25	
Toluene	24.18	1.0	25	0	96.7	75.6	119	25.20	4.13	25	
trans-1,2-Dichloroethene	25.30	1.0	25	0	101	76.8	123	26.81	5.80	25	
Trichloroethene	24.51	1.0	25	0	98.0	85.2	130	25.96	5.71	25	
Vinyl chloride	27.20	1.0	25	0	109	64.6	140	29.21	7.13	25	
Surr: 4-Bromofluorobenzene	26.21	0	25	0	105	63.3	123	26.42	0	0	
Surr: Dibromofluoromethane	27.95	0	25	0	112	62.8	120	27.24	0	0	
Surr: Toluene-d8	25.36	0	25	0	101	60	122	25.08	0	0	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

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CLIENT: Pima County Flood Control
Work Order: 06120322
Project: MHP-ERP / Monthly-Quarterly

ANALYTICAL QC SUMMARY REPORT

TestCode: N_TKN_WW

Sample ID: MB-R82229	SampType: MBLK	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 82229
Client ID:	Batch ID: R82229	TestNo: E351.4		Analysis Date: 12/14/2006	SeqNo: 976604

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	<1.3	1.3									

Sample ID: LCS-R82229	SampType: LCS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 82229
Client ID:	Batch ID: R82229	TestNo: E351.4		Analysis Date: 12/14/2006	SeqNo: 976606

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	23.62	1.3	25	0	95.3	85	115				

Sample ID: LCSD-R82229	SampType: LCSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 82229
Client ID:	Batch ID: R82229	TestNo: E351.4		Analysis Date: 12/14/2006	SeqNo: 976631

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	22.48	1.3	25	0	89.9	85	115	23.62	5.83	20	

Sample ID: 06120254-05CMS	SampType: MS	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 82229
Client ID:	Batch ID: R82229	TestNo: E351.4		Analysis Date: 12/14/2006	SeqNo: 976608

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	51.48	1.3	25	24.90	106	70	130				

Sample ID: 06120254-05CMSD	SampType: MSD	TestCode: N_TKN_WW	Units: mg/L	Prep Date:	RunNo: 82229
Client ID:	Batch ID: R82229	TestNo: E351.4		Analysis Date: 12/14/2006	SeqNo: 976609

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Total Kjeldahl	53.80	1.3	25	24.90	116	70	130	51.48	4.42	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

■ Main Laboratory: 4645 E. Cotton Center Boulevard, Building 3, Suite 189 Phoenix, AZ 85040 Phone: 602.437.3340 Toll Free: 866.772.5227 Fax: 623.445.6192 www.aerotenvirolabs.com
■ Tucson Facility: 4455 S. Park Ave. Ste. 110 Tucson, AZ 85714 Phone: 520.807.3801 Fax: 520.807.3803

Aerotech Environmental Laboratories Sample Receipt Checklist

Project checked by: _____

Laboratory Number: 0612-0322	Checklist completed by: _____
Client Name: Pima County Flood Control	Signature/Date: 12/12/06
Matrix: AQ Carrier Name: Del Ext	Date/Time Rec'd: 12/12/06 @ 1148 By: W

Temperature of Samples? 1.4 °C Circle one: Blue Ice (Wet Ice) Not Present

	Yes	No*	Not Present
Shipping container/cooler in good condition?	✓		
Custody seals intact on shipping container/cooler?			✓
Custody seals intact on sample containers?			✓
Chain of Custody present and relinquished/received properly?	✓		
Chain of Custody agrees with sample labels?	✓		
Samples in proper containers/bottles?	✓		
Sample containers intact?	✓		
All samples received within holding time?	✓		
Is there sufficient sample volume to perform the tests?	✓		
40mL vials for volatiles & SOCs received with zero headspace?	X		

Soil Containers:
Brass Sleeve____
Glass Jar____
Methanol____
Plastic Bag____
Encore Samplers____

**See Comment about Chlorine and pH

12-12-06

Total number of bottles received: 11	IH sample media: NS
If applicable, how many sample bottles were shipped from AEL-Tucson? 11	N/A

Number of containers received by preservative and by sample number: (If more than 15 samples are rec'd, please continue on separate sheet(s))

Preservative	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A-General															
B-HNO3	1	1													
C-H2SO4	1	1													
D-HCl	3	3	1												
E-Na2S2O3															
F-NaOH															
G-Sulfide															
H-Na Sulfite															
I-MCAA															
J-Methanol															
K-HAA															
L-Other															

Water-pH acceptable upon receipt? (Yes) No N/A

Preservative & pH		pH of samples upon receipt	If pH requires adjustment, list sample number, and reagent ID. number
Metals	<2	≤2	
Nutrients	<2	<2	
Total Phenols	<2		
413 (O&G)	<2		
418 (TPH)	<2		
Cyanide	>12		
Sulfide	>9		

**Any No response must be detailed in the comments section below. Contact the PM immediately to determine how to proceed. Refer to SOP 11-001.04, Section 1.8.6. Continue on back if additional space is needed.*

***The holding time for pH and Total Residual Chlorine analysis is immediate. For the most accurate result, the pH and Total Residual Chlorine should be taken in the field within 15 minutes of sampling.*

Comments:

Corrective Action:

Aerotech Environmental Laboratories

an affiliate of Severn Trent Laboratories, Inc.

[ ] Aerotech Laboratories, Inc. - 1722 N. 17th Street, Temple, AZ 85281 (480) 967-1310 FAX (480) 967-1019
[ ] North Phoenix - 1501 W. Knudsen, Phoenix, AZ 85027 (623) 780-4700 FAX (623) 780-2934
[ ] Tucson - 4455 S. Park Ave, Suite 110, Tucson, AZ 85714 (520) 807-3801 FAX (520) 807-3803
www.palabs.com or call toll-free 1-866-7PALABS (1-866-772-5227)

Quote# K2311

Lab Number: 06-12-0322

Customer Number: 1370913		Page 1 of 1	
Customer:	PIMA COUNTY FLOOD CONTROL DISTRICT	Sampler:	David Scalero
Address:	201 N. STONE AVE. 4TH FLOOR	Project Name:	MHP-ERP / Monthly-Qrtly
City, State, Zip:	Tucson AZ 85701	Project Number:	
Contact:	David Scalero	P.O. Number:	
Phone:	(520) ~~740-6358~~ 243-1800 Fax: (520) ~~740-6748~~ 243-2226	Fax Results:	Y N
E-Mail Address:	david.scalero@dot.pima.gov	E-Mail Results:	(Y) N

Sample Type Codes

DW - Drinking Water; A - Air; WW - Waste Water; S - Soil; HW - Hazardous Waste; Other _____

Sample Receipt

Temperature 1.4 °C
Custody Seals: Yes ____ No NA
Custody Seals Intact: Yes ____ No NA
Total # of Containers: 11

Turn Around Request

____ 24 Hours ____ 48 Hours
____ 72 Hours
____ 5 Working Days
X Standard 10 Working Days
Subject to scheduling & availability (surcharges apply)

Analyses Requested

Sample Information

Lab #	Sample Identification	Date	Time	Type	Nitrate/Nitrite as N	Total Kjeldahl Nitrogen (TKN)	Total Nitrogen	Metals (200.8) - As, Ba, Cd, Cr, Pb	- Sb, Be, Ni, Tl, Se	Mercury	8260B VOCs	# of sample Containers
1	Source Water	12-11-06	9:15	WW	X	X	X	X	X	X	3	5
2	HP-1	12-11-06	11:55	DW	X	X	X	X	X	X	3	5
3	Trip Blank	12-11-06										1
	Tucson Temp 2.2°C											

Instructions / Special Requirements:

Date:	Time:	Samples Relinquished By:	Received By:
[illegible]	2:55	David Scalero	Norma Nalbandi
[illegible]	[illegible]	Norma Nalbandi	12 Express
[illegible]	[illegible]	[illegible]	

Analysis performed is subject to the Terms & Conditions available at www.severntrentlabs.com or call 866.722.5227 to request a copy.